Appendix C

Tajiguas Resource Recovery Project Revised Hydrology

TAJIGUAS RESOURCE RECOVERY PROJECT REVISED HYDROLOGY

June 16, 2017

Reviewed by: Mark Seits, P.E.

Prepared by: Jacob Hyles, P.E.

Executive Summary

The purpose of this Technical Memorandum is to document the results of the revised hydrologic analysis of the Tajiguas Resource Recovery Project (TRRP) prepared by HDR in September 2013. The revisions to the 2013 hydrologic analysis are required to reflect the new location for the proposed Anaerobic Digestion Facility (ADF) on the east side of the landfill (adjacent to the Composting Area). Moving the ADF from the west side to the east side impacted three subbasins within the hydrologic model. The hydrologic parameters for Subbasin PC0301 (west side) were revised to reflect the removal of the ADF (Curve Number adjusted) and Subbasins PC0203 and PC0305 (east side) were revised to reflect the addition of the ADF (Curve Numbers and drainage areas adjusted). Both the Interim Condition with TRRP and Ultimate Condition with TRRP parameters were revised in the 2013 HEC-HMS model and rerun to reflect the changes. A comparison between the previous 2013 and revised 2017 hydrologic analysis results is provided in the table below. The 100-year peak flow rates are provided for the specific subbasins impacted, as well as the cumulative flow in the storm drain at the specified locations (i.e. nodes) within the impacted reach. The subbasins and nodes are shown on the Interim and Ultimate Condition Hydrology Maps from the 2013 report (Figures 3 and 5, respectively) and are included in the Appendix.

		100yr Peak Q (cfs) - With TRRP Conditions			
		Interim		Ultimate	
Type	Element	2013	2017	2013	2017
Subbasin	PC0203	112.6	113.7	112.6	113.7
	PC0301	43.4	43.1	43.4	43.1
	PC0305	94.7	93.5	94.7	93.5
Nodes	Pacific Ocean	490.2	489.2	447.7	447.7
	N10	487.6	486.6	445.0	443.8
	N15	446.3	445.3	402.6	401.4
	N20	403.7	402.6	356.6	355.4
	N25	424.5	423.3	365.5	364.2
	N30	390.7	389.5	331.1	330.1
	N35	252.3	252.1	204.9	205.0
	N70	235.7	235.5	196.6	196.8
	N80	199.5	199.7	181.4	181.7

Based on the table, it is apparent that the change in location for the ADF has an insignificant impact on the peak flows within and leaving the site. There is a less than 1% increase in flow from Subbasin PC0203 and a less than 0.2% increase in the flow within the storm drain between Nodes N35 and N80 (see highlighted numbers in the table). Both are primarily due to a small increase in area within PC0203 (currently drains to PC0305). These flows are still below the pre-landfill and existing condition flows as identified in the 2013 report. No revisions to the 2013 hydraulic models were required due to the little to no change in peak flows in the storm drain.

Hydrologic Assessment

An HEC-HMS model was prepared for the Hydrologic and Hydraulic Analysis Report completed by HDR in September 2013. Five separate models were prepared for the 2013 report - three Without TRRP Conditions (Pre-landfill, Existing and Ultimate) and two With TRRP Conditions (Existing and Ultimate). There were no changes to the Without TRRP Condition models, but the new ADF site impacts three subbasins within the With TRRP Condition HEC-HMS models (Interim and Ultimate). The hydrologic parameters for Subbasin PC0301 (west side) were revised to reflect the removal of the ADF (Curve Number adjusted) and Subbasins PC0203 and PC0305 (east side) were revised to reflect the addition of the ADF (Curve Numbers and drainage areas adjusted). The subbasins and nodes are shown on the Interim and Ultimate Condition Hydrology Maps from the 2013 report (Figures 3 and 5, respectively) and are included in the Appendix.

A draft report prepared by John Kular Consulting (dated May 3, 2017) was used to identify the areas impacted by the new site plan (see Appendix A). The drainage areas were confirmed and/or adjusted as needed to meet the new site plan. The main difference with the new site plan is the regrading of approximately 0.55 acres from Subbasin PC0305 to Subbasin PC0203. New area-averaged curve numbers (CN) were calculated based on the areas and land use. There is very little difference in CNs between the ADF (93) and the landfill (94), so the change in area-averaged CNs was minimal. There were no other changes to the hydrologic parameters identified.

A comparison of the drainage areas and CN's for the Interim and Ultimate Conditions is provided in the tables below.

Interim with TRRP conditions

	2013		2017	
Hydrologic Element	Drainage Area (sq mi)	CN	Drainage Area (sq mi)	CN
PC0104	0.0311	90.29	0.0311	90.29
PC0203	0.0868	94.00	0.0876	93.97
PC0301	0.0336	86.03	0.0336	85.50
PC0305	0.0724	94.09	0.0715	94.06

Ultimate with TRRP conditions

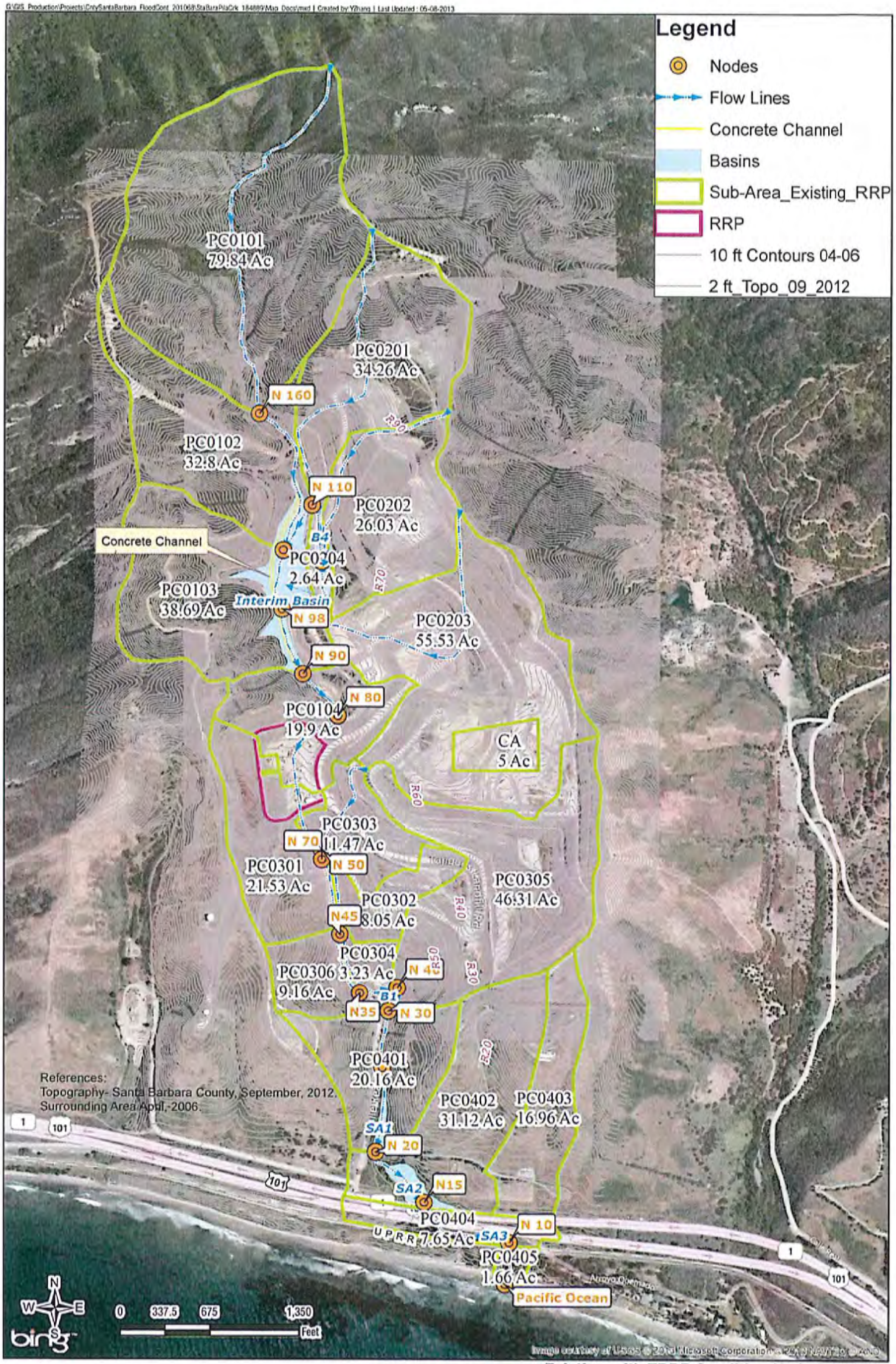
	2013		2017	
Hydrologic Element	Drainage Area (sq mi)	CN	Drainage Area (sq mi)	CN
PC0104	0.0337	91.05	0.0337	91.05
PC0203	0.0868	94	0.0876	93.97
PC0301	0.0336	86.03	0.0336	85.50
PC0305	0.0724	94.09	0.0715	94.06

Both the Interim Condition with TRRP and Ultimate Condition with TRRP models (100-year) were revised to reflect the 2017 parameter changes. The results of the 2017 model are summarized in the table below.

		100yr Peak Q (cfs) - With Project Conditions			
Type	Element	Interim 2013	Interim 2017	Ultimate 2013	Ultimate 2017
Subwatersheds	PC0101	103.9	103.9	103.9	103.9
	PC0102	40.5	40.5	40.5	40.5
	PC0103	55.9	55.9	52.4	52.4
	PC0104	43.7	43.7	48.3	48.3
	PC0201	62.6	62.6	62.6	62.6
	PC0202	65.0	65.0	65.0	65.0
	PC0203	112.6	113.7	112.6	113.7
	PC0204	6.0	6.0	6.0	6.0
	PC0301	43.4	43.1	43.4	43.1
	PC0302	20.1	20.1	20.1	20.1
	PC0303	27.9	27.9	27.9	27.9
	PC0304	8.3	8.3	8.3	8.3
	PC0305	94.7	93.5	94.7	93.5
	PC0306	18.5	18.5	18.5	18.5
	PC0401	35.8	35.8	35.8	35.8
	PC0402	52.6	52.6	52.6	52.6
	PC0403	34.7	34.7	34.7	34.7
	PC0404	13.4	13.4	13.4	13.4
	PC0405	3.7	3.7	3.7	3.7
	CA	13.4	13.4	13.4	13.4
Storage Areas	B1	150.7	149.9	150.7	149.9
	Interim Basin/SA-ULT	180.1	180.2	181.4	181.7
	B4	234.6	235.7	184.0	185.6
	SA1	403.7	402.6	356.6	355.4
	SA2	446.3	445.3	402.6	401.4
	SA3	487.6	486.6	445.0	443.8
Nodes	N10	487.6	486.6	445.0	443.8
	N100	378.2	379.2	144.4	144.4
	N120	245.3	246.4	245.3	246.4
	N15	446.3	445.3	402.6	401.4
	N20	403.7	402.6	356.6	355.4
	N25	424.5	423.3	365.5	364.2
	N30	390.7	389.5	331.1	330.1
	N35	252.3	252.1	204.9	205.0
	N40	150.5	149.4	150.5	149.4
	N45	48.0	48.0	56.3	56.3
	N50	27.9	27.9	27.9	27.9
	N70	235.7	235.5	196.6	196.8
	N80	199.5	199.7	181.4	181.7
	N95	432.2	433.4	353.0	355.1

	Table continued	100yr Peak Q (cfs) - With Project Conditions			
Type	Element	Interim 2013	Interim 2017	Ultimate 2013	Ultimate 2017
Routing Reaches	R20	390.6	389.4	331.0	330.0
	R30	48.0	48.0	56.3	56.3
	R40	27.9	27.9	27.9	27.9
	R50	235.7	235.4	196.6	196.8
	R60	199.5	199.7	181.4	181.7
	R70	377.9	379.0	144.3	144.3
	R80	234.6	235.7	-	-
	R90	103.9	103.9	103.9	103.9
Sinks	Pacific Ocean	490.2	489.2	447.7	447.7

Appendix

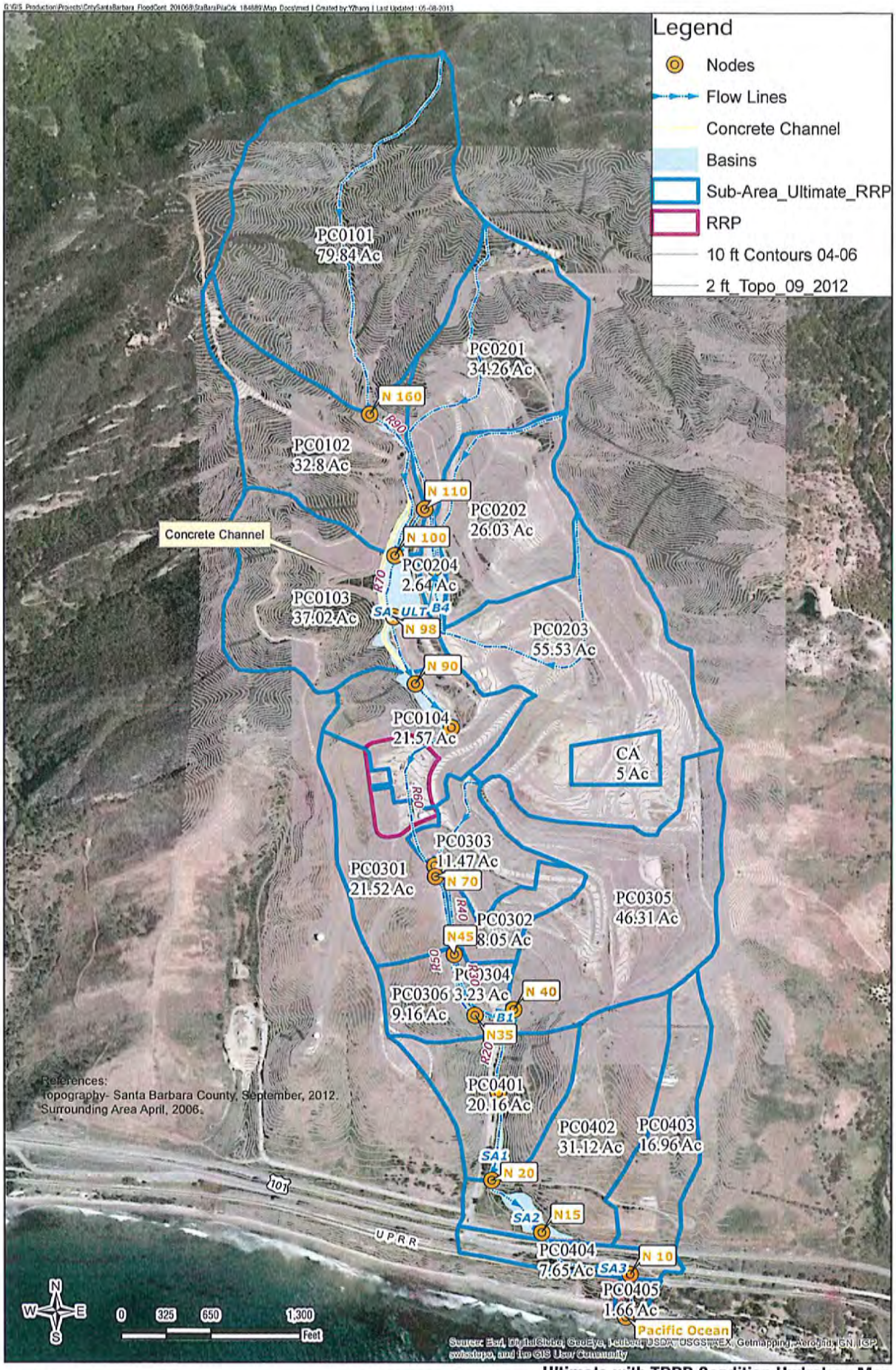


Existing with TRRP Condition Hydrology Map

FIGURE 3

Tajiguas Landfill Hydrology and Hydraulics Report | Santa Barbara County, California

HDR
ONE COMPANY | *Many Solutions*



Ultimate with TRRP Condition Hydrology Map

FIGURE 5

Tajiguas Landfill Hydrology and Hydraulics Report | Santa Barbara County, California

HDR
ONE COMPANY | *Many Solutions*

JOHN KULAR CONSULTING

May 3, 2017

John Dewey, CEO
Mustang Renewable Power Ventures, LLC
750 Pismo St.
San Luis Obispo, CA 93401

DRAFT

Dear Sir:

RE: Tajiguas Resource Recovery Project
Drainage Report – ADF/MRF/CMU Areas

1.0 Introduction

The Tajiguas Resource Recovery Project (TRRP) is located at the Tajiguas Landfill, approximately 26 miles north of the City of Santa Barbara along US 101. The landfill is located between two parallel ridges which form the Canada de la Pila. This 400-acre valley is drained by Pila Creek.

The Tajiguas Landfill Master Drainage Plan was prepared by HDR in 2008. This document has been supplemented by several technical memos as the landfill phases have been constructed. For convenience, this report uses the same location reference points as the HDR studies. See HDR Figure 5.

The Tajiguas Resource Recovery Project consists of two main geographic areas. The Materials Recovery Facility (MRF) is located on the west side of the landfill and the Anaerobic Digestions Facility (ADF) and Compost Management Unit (CMU) are located on the east side of the landfill

The MRF area is located within HDR drainage areas PC0104 and PC0301. The Materials Recovery Facility consists of a 65,000 SF main building plus several smaller buildings as well as associated driveways and parking comprising approximately 5.8 acres in total. Pila Creek passes under the MRF area parking lots conveyed by two 48-inch diameter HDPE storm drains.

Pre-development runoff from the site flows northeastward to the inlet (Node 80) of the existing 48-inch diameter HDPE storm drains. Post-development runoff from the MRF Drainage Area will be conveyed through a system of HDPE storm drain pipes and concrete swales to the inlet (Node 80) of the existing 48-inch diameter HDPE storm drains.

The ADF area is located within HDR drainage area PC0203 and PC0305. Predevelopment runoff from PC0203 flows northward through a series of landfill drainage swales and pipes into the north landfill sediment basin (Node N95) where it is drained into Pila Creek. Predevelopment runoff from PC0305 flows

12107 Bedfordshire Drive
Bakersfield CA 93311
661.302.1292

www.kularconsult.com

southward through a series of landfill drainage swales and pipes into the south landfill sediment basin (Node N40) where it is drained into Pila Creek. The Anaerobic Digester Facility (ADF, 63,000 SF) and associated driveways comprise 3.9 acres. The CMU area is 4.92 acres and the associated Densimetric Table pad is 0.5 acres.

2.0 Methodology

2.1 RRP Peak Flow Calculation

Peak flows were calculated for the 10, 25, 50 and 100-year return periods using Santa Barbara Flood Control's Rational XL spreadsheet. The times of concentration (Tc) for the pre-development drainage areas were calculated using *Time of Concentration of Small Drainage Basins, Santa Barbara Department of Public Works, Road Division*. Pre-development runoff coefficient C was based on agricultural land cover. The rainfall intensities were derived from the South Coast rainfall curves.

The post development drainage areas are very small, so the minimum time of concentration allowed by the Rational XL spreadsheet of 12 minutes was used as the Tc. The post-development runoff coefficient C for the developed area was based upon commercial land use.

3.0 Flow Calculations and Results

The pre-development flow calculations for the MRF, ADF and CMU drainage areas are summarized in Table 1. Refer to Exhibit 1 for pre-development drainage areas at the MRF.

The post-development flow calculations for the MRF, ADF and CMU areas are summarized in Table 2. Refer to Exhibit 2 for post development drainage areas at the MRF and Exhibit 3 for the post development area at the ADF. The differences between pre-development and post development flows is shown in Table 3. The increases are considered negligible.

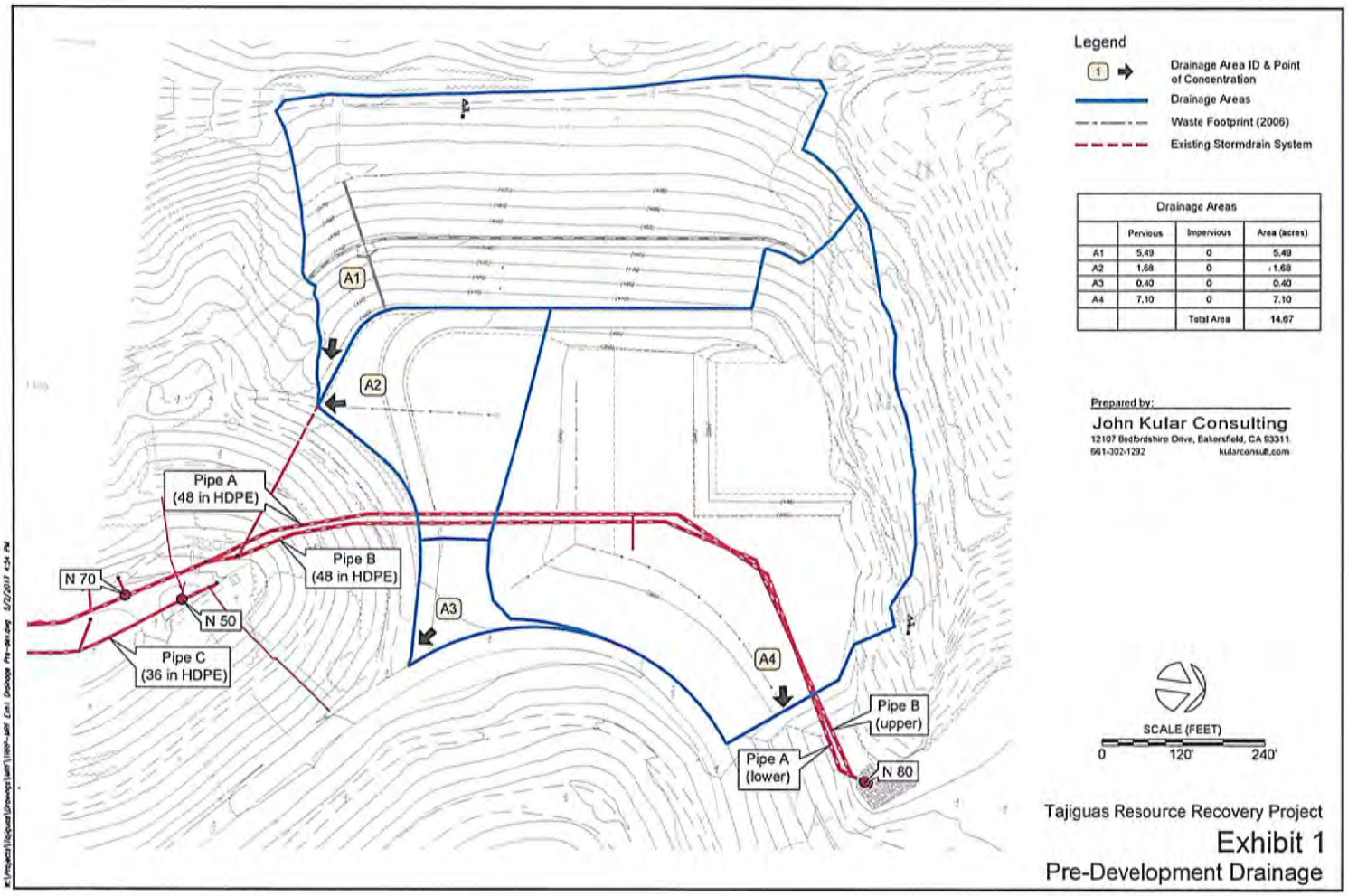
CMU stormwater runoff is considered to occur only when the compost piles are covered with tarpaulins. When the compost piles are exposed to rainfall the entire CMU area runoff is considered to be leachate under State Water Quality Control Board (SWQCB) regulations. See Section 5.0 for a discussion of how the leachate runoff is intercepted, retained and re-used.

4.0 Stormwater Quality Mitigation

4.1 ADF and MRF Areas

Stormwater quality in the ADF and MRF Areas will be addressed by several means:

1. All waste-related activities at the MRF and ADF will be conducted indoors.
2. The hillsides above the MRF will be hydroseeded and planted with shrubs to retain the soil. The planted area will be irrigated to ensure establishment of vegetative cover.



Legend

- 1 → Drainage Area ID & Point of Concentration
- Drainage Areas
- Waste Footprint (2006)
- Existing Stormdrain System

Drainage Areas			
	Pervious	Impervious	Area (acres)
A1	5.49	0	5.49
A2	1.68	0	1.68
A3	0.40	0	0.40
A4	7.10	0	7.10
		Total Area	14.67

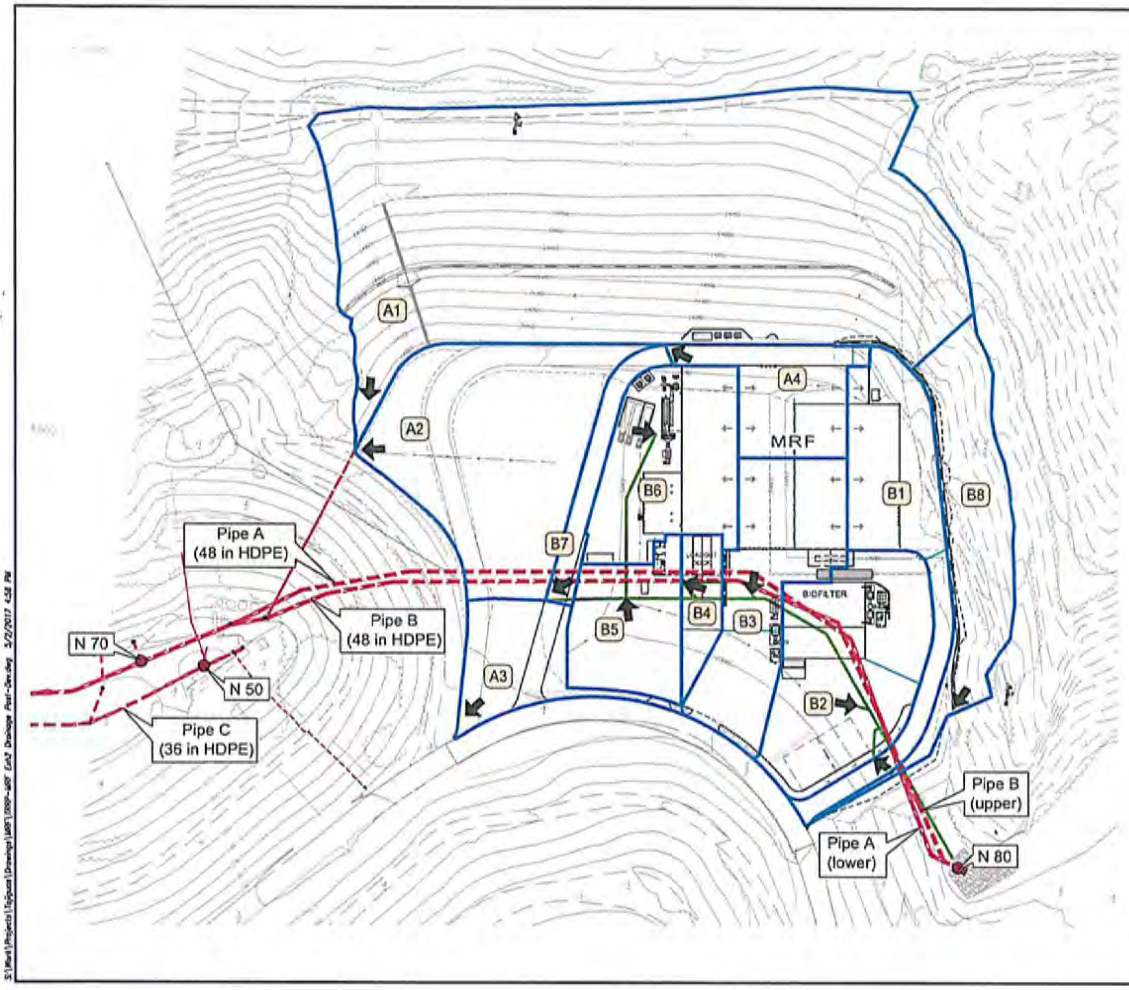
Prepared by:
John Kular Consulting
12107 Bedfordshire Drive, Bakersfield, CA 93311
661-302-1292 kularconsult.com

SCALE (FEET)
0 120' 240'

Tajiguas Resource Recovery Project

Exhibit 1

Pre-Development Drainage



Legend

- Drainage Area ID & Point of Concentration
- Drainage Areas
- Waste Footprint (2006)
- Existing Stormdrain System
- Proposed Stormdrain System

Drainage Areas			
	Pervious	Impervious	Area (acres)
A1	5.87	0	5.87
A2	1.72	0	1.72
A3	0.40	0.09	0.49
A4	0.56	0	0.56
		Total Area A	8.64
B1	0	0.91	0.91
B2	0	1.20	1.20
B3	0	0.98	0.98
B4	0	0.21	0.21
B5	0	0.59	0.59
B6	0	0.94	0.94
B7	0	0.24	0.24
B8	0	0.96	0.96
		Total Area B	6.03
	Total	A + B	14.67

Prepared by:
John Kular Consulting
12107 Bedfordshire Drive, Bakersfield, CA 93311
661-302-1292 kularconsult.com

SCALE (FEET)
0 120' 240'

Tajiguas Resource Recovery Project

Exhibit 2
Post-Development Drainage

Table 1 - Pre-development Runoff

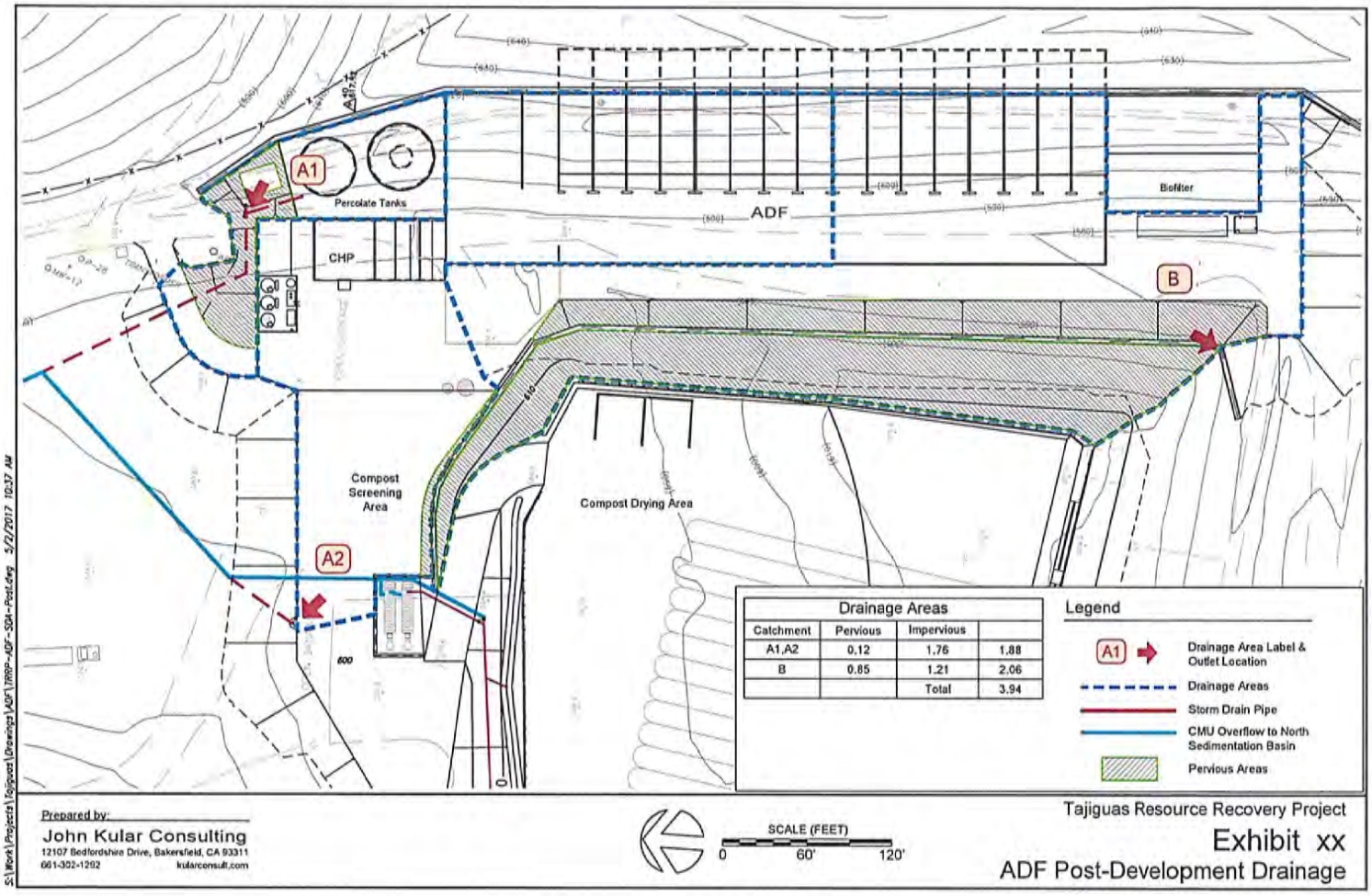
Drainage Area	Area	Classification	C10	C25	C50	C100	I10	I25	I50	I100	Q10	Q25	Q50	Q100
	acres						in/hr	in/hr	in/hr	in/hr	cfs	cfs	cfs	cfs
ADF North	1.15	Agricultural	0.62	0.68	0.72	0.74	2.61	3.18	3.68	4.03	1.9	2.5	3.0	3.4
ADF South	1.58	Agricultural	0.62	0.68	0.72	0.74	2.61	3.18	3.68	4.03	2.6	3.4	4.2	4.7
CMU	4.92	Agricultural	0.62	0.68	0.72	0.74	2.61	3.18	3.68	4.03	8.0	10.6	13.0	14.7
MRF	5.80	Agricultural	0.62	0.68	0.72	0.74	2.61	3.18	3.68	4.03	9.4	12.5	15.4	17.3

Table 2 - Post Development Runoff

Drainage Area	Area	Classification	C10	C25	C50	C100	I10	I25	I50	I100	Q10	Q25	Q50	Q100
	acres						in/hr	in/hr	in/hr	in/hr	cfs	cfs	cfs	cfs
ADF North	1.15	Commercial	0.73	0.76	0.79	0.8	2.61	3.18	3.68	4.03	2.2	2.8	3.3	3.7
ADF South	1.58	Commercial	0.73	0.76	0.79	0.8	2.61	3.18	3.68	4.03	3.0	3.8	4.6	5.1
CMU	4.92	Commercial	0.73	0.76	0.79	0.8	2.61	3.18	3.68	4.03	9.4	11.9	14.3	15.9
MRF	5.80	Commercial	0.73	0.76	0.79	0.8	2.61	3.18	3.68	4.03	11.1	14.0	16.9	18.7

Table 3 - Increase in Runoff Due to Project

Drainage Area	Area		Q10	Q25	Q50	Q100
	acres		cfs	cfs	cfs	cfs
ADF North	1.15		0.3	0.3	0.3	0.3
ADF South	1.58		0.5	0.4	0.4	0.4
CMU	4.92		1.4	1.3	1.3	1.2
MRF	5.80		1.7	1.5	1.5	1.4



Prepared by:
John Kular Consulting
12107 Bedfordshire Drive, Bakersfield, CA 93311
661-302-1292 kularconsult.com

Tajiguas Resource Recovery Project

Exhibit xx
ADF Post-Development Drainage

S:\Work\Projects\Tajiguas\Drawings\ADF\RRP-ADF-SDA-Post.dwg 5/2/2017 10:37 AM

3. The concrete swales located on the slope terraces will contain intermittent sediment traps to intercept sediment which may wash off the hillsides until the vegetation is well-established.
4. A Hydrodynamic separator will intercept drainage from building roofs and paved area at the MRFs, trapping any oily residue, trash or sediments. Contech Stormwater Quality White Papers demonstrating the efficacy of the devices are included in Appendix C. The laboratory tests were conducted with these Particle Size Distributions (PSDs) because they are representative of rooftop and parking lot sediment loads in first flush of stormwater runoff. The parking lots and driveways will be swept regularly by a commercial sweeper, so the project runoff sediments should correlate very well with the PSDs considered in the Contech CDS design criteria.
5. FloGard Plus catchbasin filter inserts will be used to intercept drainage from building roofs and paved area at the Densimetric Table and ADF, trapping any oily residue, trash or sediments. The ADF parking lots and driveways will be swept regularly by a commercial sweeper

The water quality flow rates to be treated by items 4 and 5 above were calculated based upon the criteria found in the Santa Barbara County Stormwater Technical Guide Appendix C. This rate is based upon runoff generated by a constant rainfall intensity of 0.2 inches per hour. This is the same standard cited in the landfill's industrial stormwater discharge permit, IGP-2014-0057-DWQ. The flows generated by this method are shown in Table 4.

5.0 CMU Area Leachate Runoff

When the compost piles are exposed to rainfall the entire CMU area runoff is considered to be leachate under State Water Quality Control Board (SWQCB) regulations. The CMU pad runoff collection system is directed to two Baker tanks equipped with interior baffles to trap sediments. The tanks are pumped to the CMU Runoff Collection Tank. The combined tank capacity is sufficient to retain the 25-year, 24-hour storm runoff. The collected runoff is filtered and used to water the compost piles to maintain the optimum moisture range (50-65%) for efficient composting.

When a large storm is forecast and/or the CMU Runoff Collection Tank is at a high level, water resistant tarpaulins are deployed to cover the compost piles and the aisles between piles are swept. The storm drainage collection system is diverted with control valves to send the storm water runoff to the north landfill sediment pond.

HydroCAD software was used to model the 25-year, 24-hour storm to size the tanks, pumps and forcemain for the storm event. The SCS Method with Type 1 hydrograph curve and Antecedent Moisture Condition 2 was used. The total rainfall depth of 6.78 inches was based upon Santa Barbara South Coast Station. The HydroCAD results are shown in Appendix B.

Table 4 **TRRP - MRF/ADF SWQ Calculations** Revised 04/27/17

Updated SBC Method
Q=CIA

Area Name	C	I	A	Q	Manufacturer/Type	Model	Rated Treatment Capacity
		(in/hr)	(acres)	(cfs)			(cfs)
MRF	0.73	0.20	5.80	0.847	Contech/Hydrodynamic Separator	CDS2020	1.10
ADF North	0.73	0.20	1.15	0.168	Flogard Plus/CB Insert	FGP-1836G08	0.90
ADF South	0.73	0.20	1.58	0.231	Flogard Plus/CB Insert	FGP-1836G08	0.90

Closing

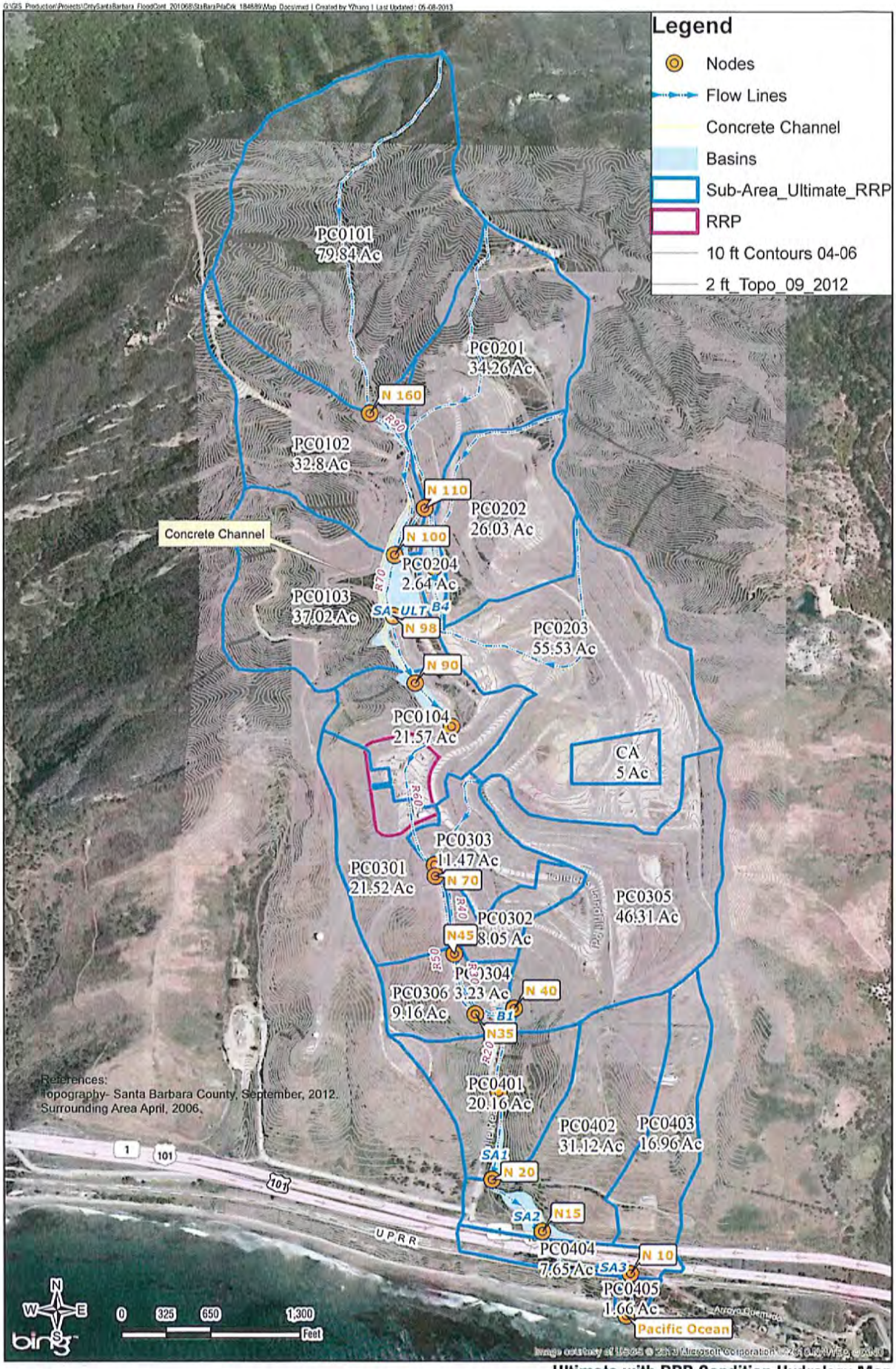
This analysis was performed based upon preliminary site design and may be updated if there are significant changes in the final site design. Thank you for the opportunity to be of service to Mustang Renewable Power Ventures LLC. If you have any questions, please contact the undersigned at 661-302-1292 or john@kularconsult.com

Sincerely,

John Kular, RCE 64920
President
John Kular Consulting

APPENDIX A

EXCERPT FROM HDR MASTER DRAINAGE PLAN



Ultimate with RRP Condition Hydrology Map

FIGURE 5

APPENDIX B

HYDROCAD MODEL RESULTS

Summary for Subcatchment 4S: CMU pad

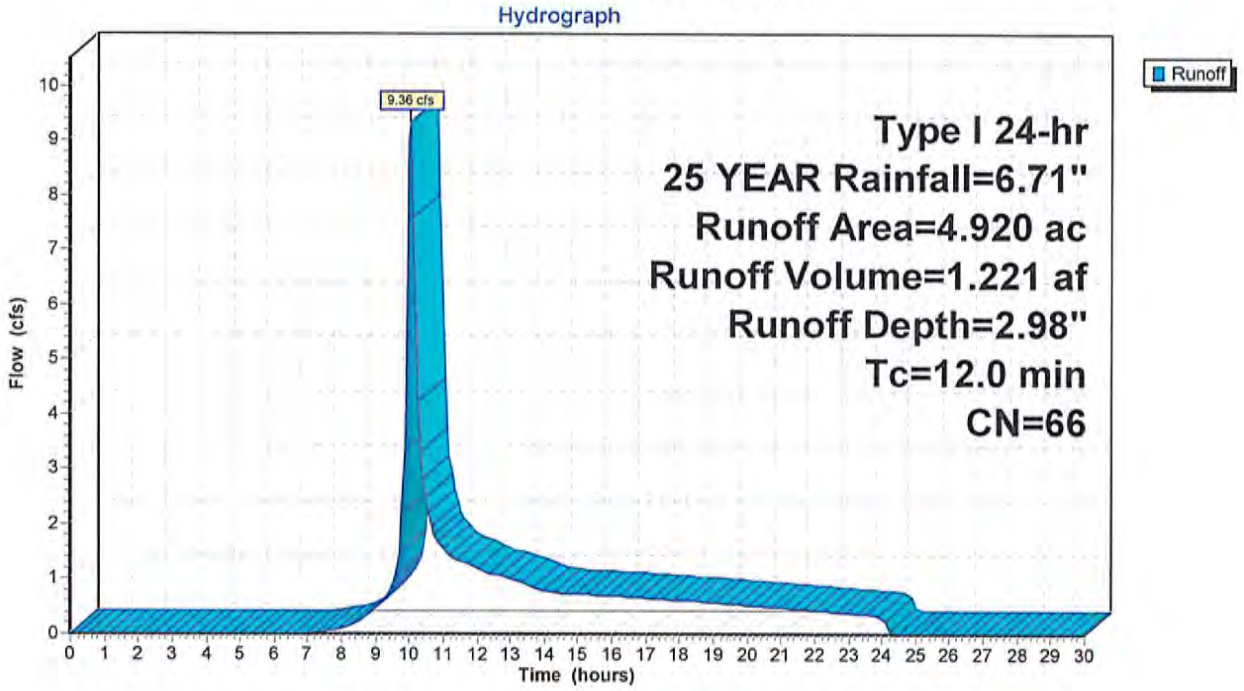
Runoff = 9.36 cfs @ 10.04 hrs, Volume= 1.221 af, Depth= 2.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.08 hrs
Type I 24-hr 25 YEAR Rainfall=6.71"

	Area (ac)	CN	Description
*	2.400	98	AC aisles
*	2.520	36	compost piles
	4.920	66	Weighted Average
	2.520		51.22% Pervious Area
	2.400		48.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					**Direct Entry,**

Subcatchment 4S: CMU pad



APPENDIX C

CONTECH WHITE PAPERS

FLOGUARD SPECIFICATION SHEETS

Available Models

	CDS Model	Typical Internal MH Diameter or Equivalent ID[1] ft	m	Typical Depth[2] Below Pipe Invert ft	m	Water Quality Flow[3] 125 µm cfs	l/s	Screen Diameter/Height ft	m	Typical Sump Capacity yd³	m³
Precast** Inline	CDS2015-4	4	1.2	3.5	1.1	0.7	19.8	2.0/1.5	0.6/0.5	0.5	0.4
	CDS2015	5	1.5	5.2	1.6	0.7	19.8	2.0/1.5	0.6/0.5	1.3	1.0
	CDS2020	5	1.5	5.7	1.7	1.1	31.2	2.0/2.0	0.6/0.6	1.3	1.0
	CDS2025	5	1.5	6.0	1.8	1.6	45.3	2.0/2.5	0.6/0.8	1.3	1.0
	CDS3020	6	1.8	6.2	1.9	2.0	56.6	3.0/2.0	0.9/0.6	2.1	1.6
	CDS3030	6	1.8	7.1	2.2	3.0	85.0	3.0/3.0	0.9/0.9	2.1	1.6
	CDS3035	6	1.8	7.6	2.3	3.8	106.2	3.0/3.5	0.9/1.1	2.1	1.6
	CDS4030	8	2.4	8.6	2.6	4.5	127.4	4.0/3.0	1.2/0.9	5.6	4.3
	CDS4040	8	2.4	9.7	3.0	6.0	169.9	4.0/4.0	1.2/1.2	5.6	4.3
	CDS4045	8	2.4	10.3	3.1	7.5	212.4	4.0/4.5	1.2/1.4	5.6	4.3
Precast** Offline	CDS3020-D	6	1.8	6.2	1.9	2.0	56.6	3.0/2.0	0.9/0.6	2.1	1.6
	CDS3030-DV	6	1.8	6.9	2.1	3.0	85.0	3.0/3.0	0.9/0.9	2.1	1.6
	CDS3030-D	6	1.8	7.1	2.2	3.0	85.0	3.0/3.0	0.9/0.9	2.1	1.6
	CDS3035-D	6	1.8	8.7	2.6	3.8	106.2	3.0/3.5	0.9/1.1	2.1	1.6
	CDS4030-D	7	2.1	8.6	2.6	4.5	127.4	4.0/3.0	1.2/0.9	4.3	3.3
	CDS4040-D	7	2.1	9.6	2.9	6.0	169.9	4.0/4.0	1.2/1.2	4.3	3.3
	CDS4045-D	7	2.1	10.1	3.1	7.5	212.4	4.0/4.5	1.2/1.4	4.3	3.3
	CDS5042-DV	9.5	2.9	9.6	2.9	9.0	254.9	5.0/4.2	1.5/1.3	1.9	1.5
	CDS5640-D	8	2.4	9.5	2.9	9.0	254.9	5.6/4.0	1.7/1.2	5.6	4.3
	CDS5050-DV	9.5	2.9	10.3	3.1	11	311.5	5.0/5.0	1.5/1.5	1.9	1.5
	CDS5653-D	8	2.4	10.9	3.3	14	396.5	5.6/5.3	1.7/1.6	5.6	4.3
	CDS5668-D	8	2.4	12.4	3.8	19	538.1	5.6/6.8	1.7/2.1	5.6	4.3
	CDS5678-D	8	2.4	13.4	4.1	25	708.0	5.6/7.8	1.7/2.4	5.6	4.3
	CDS7070-DV	12	3.7	14	4.3	26	736.3	7.0/7.0	2.1/2.1	3.3	2.5
	CDS10060-DV	17.5	5.3	12	3.7	30	849.6	10.0/6.0	3.0/1.8	5.0 or 10.2	3.8 or 7.8
	CDS10080-DV	17.5	5.3	14	4.3	50	1416.0	10.0/8.0	3.0/2.4	5.0 or 10.2	3.8 or 7.8
	CDS100100-DV	17.5	5.3	16	4.9	64	1812.5	10.0/10.0	3.0/3.0	5.0 or 10.2	3.8 or 7.8
Cast In Place Offline	CDS150134-DC	22	6.7**	22	6.7**	148	4191.4	15.0/13.4	4.6/4.1	20.4	15.6
	CDS200164-DC	26	7.9**	26	7.9**	270	7646.6	20.0/16.4	6.1/5.0	20.4	15.6
	CDS240160-DC	32	9.8**	25	7.6**	300	8496.2	24.0/16.0	7.3/4.9	20.4	15.6

*Sump Capacities and Depth Below Pipe Invert can vary due to specific site design

1. Structure diameter represents the typical inside dimension of the concrete structure. Offline systems will require additional concrete diversion components.
2. Depth Below Pipe and Sump Capacities can vary to accommodate specific site design.
3. Water Quality Flow is based on 80% removal of a Particle Size Distribution (PSD) having a mean particle size: d50=125-µm, which is a typical PSD gradation characterizing particulate matter (TSS/SSC) in urban rainfall runoff.

Water Quality Flow, Particle Size & Performance Notes:

- 80% removal (Re=80%) performance forecasts of the PSD having a d50=125-µm is derived from controlled tests of a unit equipped with 2400-µm screen. Performance forecasts for specific particle size gradations or d50s=50, 75, 125, 150 & 200-µm are also available. Removal forecasts based on unit evaluations conducted in accordance with the Technology Assessment Protocol - Ecology (TAPE) protocols, Washington Department of Ecology (WASDOE).
- Units can be sized to achieve specific Re performance for peak flow rates for specific Water Quality Flows, over the hydrograph of a Water Quality Storm Event or sized to meet a specific removal on an average basis using accepted probabilistic methods. When sizing based on a specific water quality flow rate, the required flow to be treated should be equal to or less than the listed water quality flow for the selected system.

  Contact our support staff for the most cost effective sizing for your area.

FloGard +Plus® Catch Basin Insert Filter

Inlet Filtration

Removes pollutants from runoff at the source

FloGard +Plus is a catch basin insert filter designed to remove sediment, gross solids, trash, and petroleum hydrocarbons from stormwater runoff. FloGard +Plus is ideally suited for removal of primary pollutants from paved surfaces in commercial and residential areas. Rated filter flow capacities are designed to exceed the required "first flush" treatment flow rate, and the unique dual-bypass design typically exceeds catch basin inlet capacity.

Economical Treatment
Quick, easy, and cost-effective to install, inspect, and maintain.

Efficient Performance
Removes pollutants at the inlet where they are easiest to catch.

Versatile Applications
Appropriate and easy to use on new construction or retrofit projects.

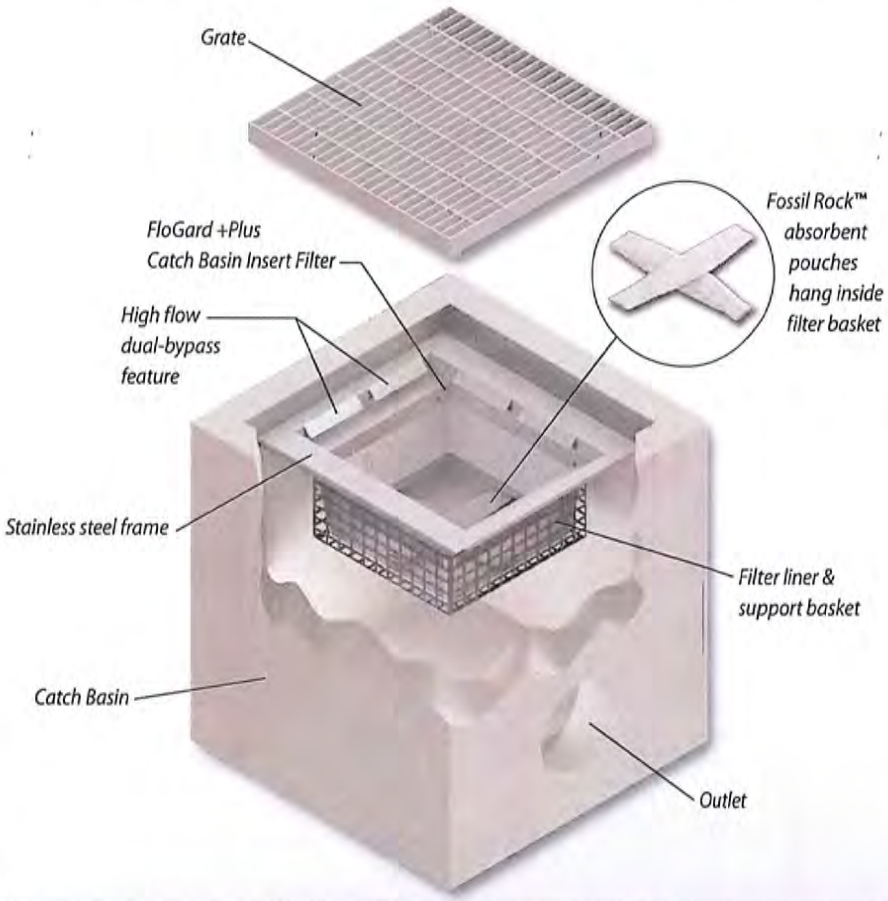
Flexible Design
Available in a wide variety of sizes and configurations, including custom options.

Durable Construction
Built to last and withstand the loads from captured pollutants.

Environmentally Friendly
No standing water minimizes vector, bacteria, and odor problems.

Proven Performance
Field and laboratory tested with up to 86%[1] removal of TSS and 80%[2] removal of oils and grease.

1. *University of Auckland laboratory testing of local street sweep material.*
2. *UCLA laboratory study.*



How It Works:
Flows entering the unit pass through the filter liner basket for removal of sediment, trash, and debris. Optional Fossil Rock™ sorbent pouches installed in the basket effect hydrocarbon capture. As the storm flow exceeds the treatment flow rate, treatment will continue and excess flows will pass through the dual-bypass openings near the top of the unit.

Oldcastle® Stormwater Solutions

FloGard +Plus Catch Basin Insert Filter

Catch basin insert designed to capture sediment, gross solids, trash, and petroleum hydrocarbons from low (first flush) flows, even during the most extreme weather conditions.

Example Types, Sizes, and Capacities

Additional sizes, including regional and custom options are available.

FloGard Combination Inlet SPECIFIER CHART								
MODEL NO. STANDARD DEPTH	STANDARD & SHALLOW DEPTH (Data in these columes is the same for both STANDARD & SHALLOW versions)			STANDARD DEPTH -20 Inches-		MODEL NO. SHALLOW DEPTH	SHALLOW DEPTH -12 Inches-	
	INLET ID Inside Dimension (inch x inch)	GRATE OD Outside Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft. / sec.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)		SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)
FGP-1633FGO	16 X 33	18 X 36	7.0	2.5	1.7	FGP-1633FGO8	1.4	1.1
FGP-1836FGO	18 X 36	18 X 40	6.9	2.3	1.6	FGP-1836FGO8	1.3	.9
FGP-2234FGO	22 X 34	24 X 36	8.1	3.6	2.1	FGP-2234FGO8	2.1	1.4
FGP-2436FGO	24 X 36	24 X 40	8.0	3.4	2.0	FGP-2436FGO8	1.95	1.15

Combination Inlet

FloGard Flat Grated Inlet SPECIFIER CHART								
MODEL NO. STANDARD DEPTH	STANDARD & SHALLOW DEPTH (Data in these columes is the same for both STANDARD & SHALLOW versions)			STANDARD DEPTH -20 Inches-		MODEL NO. SHALLOW DEPTH	SHALLOW DEPTH -12 Inches-	
	INLET ID Inside Dimension (inch x inch)	GRATE OD Outside Dimension (inch x inch)	TOTAL BYPASS CAPACITY (cu. ft. / sec.)	SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)		SOLIDS STORAGE CAPACITY (cu. ft.)	FILTERED FLOW (cu. ft. / sec.)
FGP-12F	12 X 12	12 X 14	2.8	0.3	0.4	FGP-12F8	.15	.25
FGP-16F	16 X 16	16 X 19	4.7	0.8	0.7	FGP-16F8	.45	.4
FGP-18F	18 X 18	18 X 20	4.7	0.8	0.7	FGP-18F8	.45	.4
FGP-1836F	18 X 36	18 X 40	6.9	2.3	1.6	FGP-1836F8	1.3	.9
FGP-21F	22 X 22	22 X 24	6.1	2.2	1.5	FGP-21F8	1.25	.85
FGP-24F	24 X 24	24 X 27	6.1	2.2	1.5	FGP-24F8	1.25	.85
FGP-2436F	24 X 36	24 X 40	8.0	3.4	2.0	FGP-2436F8	1.95	1.15
FGP-2448F	24 X 48	24 X 48	9.3	4.4	2.4	FGP-2448F8	2.5	1.35
FGP-32F-TN	28 X 28	32 X 32	6.3	2.2	1.5	FGP-32F8-TN	1.25	.85
FGP-30F	30 X 30	30 X 34	8.1	3.6	2.0	FGP-30F8	2.05	1.15
FGP-36F	36 X 36	36 X 40	9.1	4.6	2.4	FGP-36F8	2.65	1.35
FGP-3648F	36 X 48	40 X 48	11.5	6.8	3.2	FGP-3648F8	3.9	1.85
FGP-48F	48 X 48	48 X 54	13.2	9.5	3.9	FGP-48F8	5.45	2.25
FGP-1633F	16 X 34	18 X 36	6.9	2.3	1.6	FGP-1633F8	1.3	.9
FGP-2234F	22 X 34	24 X 36	8.0	3.4	2.0	FGP-2234F8	1.95	1.15

Flat Grated Inlet

FloGard Circular Grated Inlet SPECIFIER CHART					
MODEL NUMBER	INLET ID (Ø INCHES)	GRATE OD (Ø INCHES)	SOLIDS STORAGE CAPACITY (CU FT)	FILTERED FLOW (CFS)	TOTAL BYPASS CAPACITY (CFS)
FGP-RF15F	15	18	0.3	0.4	2.8
FGP-RF18F	18	20	0.8	0.7	4.7
FGP-RF20F	20	23	0.8	0.7	4.7
FGP-RF21F	21	23.5	0.8	0.7	4.7
FGP-RF22F	22	24	0.8	0.7	4.7
FGP-RF24F	24	26	0.8	0.7	4.7
FGP-RF30F	30	32	2.2	1.5	6.1
FGP-RF36F	36	39	3.6	2.0	8.1

Circular Frame Catch Basin

Visit our website: oldcastlestormwater.com or call (800) 579-8819 for additional sizes and options.

Appendix D

Tajiguas Resource Recovery Project Revised Hydrogeologic and Water Supply Impact Analysis Report

Prepared for:

Santa Barbara County,
Department of Public Works
Resource Recovery & Waste Management Division
130 East Victoria Street, Suite 100
Santa Barbara, CA 93101

Tajiguas Resource Recovery Project

REVISED HYDROGEOLOGIC AND WATER SUPPLY IMPACT ANALYSIS REPORT

Santa Barbara County
California

Prepared by:

Geosyntec consultants

engineers | scientists | innovators

924 Anacapa Street, Suite 4A
Santa Barbara, CA 93101
Telephone: (805) 897-3800
Fax (805) 899-8689
www.Geosyntec.com

Project Number: SB0653

Revised June 2, 2017

TAJIGUAS RESOURCE RECOVERY PROJECT REVISED HYDROGEOLOGIC AND WATER SUPPLY IMPACT ANALYSIS REPORT

SANTA BARBARA COUNTY, CALIFORNIA

Prepared on behalf of the:

County of Santa Barbara

Revised June 2, 2017

Mark Grivetti P.G. 4272, C.Hg. 211, C.E.G. 1370
Principal Hydrogeologist

Kevin Coffman, P.G. 8387
Senior Geologist

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

Geosyntec Consultants (Geosyntec) is providing Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division (RRWMD) with this revised report that updates the assessment of hydrogeologic and water supply impacts associated with the proposed Tajiguas Resource Recovery Project (Project) originally submitted October 4, 2013. The revision was requested by RRWMD as a result of a revised project layout. The revised report has been prepared to support the analysis of project impacts to water resources based on updated project information as required under the California Environmental Quality Act (CEQA). The proposed Project includes the construction and operation of a Material Recovery Facility (MRF), Anaerobic Digestion Facility (ADF), and Composting Area that would process municipal solid waste that is currently disposed of at the county-owned and operated Tajiguas Landfill to recover additional recyclable material and generate green energy. The proposed location of the Project is at the Tajiguas Landfill, as shown on **Figure 1.**

This revised hydrogeologic impact analysis for the Project includes a summary of the baseline hydrogeologic and water supply conditions along with analysis of the potential impacts to groundwater resources from the Project and project alternatives. For the purposes of this evaluation we have assumed that the baseline hydrogeologic conditions are those that exist at the time of preparation of this revised report and include the existing landfill operations. These conditions differ from those previously analyzed in prior EIRs for the landfill because several major landfill construction projects have been completed and phased closure (Phase 1) of a portion of the landfill has occurred which has reduced the overall landfill water demand. The current permitted Tajiguas Landfill Expansion Project was analyzed in an Environmental Impact Report (01-EIR-05) dated July 2002 and approved in 2002. A reconfiguration of the approved landfill footprint was analyzed in a Subsequent EIR (08EIR-00000-00007) dated March 2009 and approved in May 2009. Potential impacts for the Project are evaluated similarly to those previously identified in 01-EIR-05 and 08EIR-00000-00007, where, an environmental impact is defined as a project-induced change in the status of physical conditions. In accordance with the 01-EIR-05 and 08EIR-00000-00007, the significance of the hydrogeologic impact for this evaluation was based on State and County CEQA guidelines, requirements of CCR Title 27, and County of Santa Barbara Environmental Thresholds and Guidelines Manual.

In addition to the proposed project, to meet CEQA requirements several Project alternatives have been identified through the CEQA public scoping process and are evaluated in this revised report. The Project alternatives that were analyzed include:

1. No Project – Assumes similar waste management practices with the Tajiguas Landfill reaching capacity in the year 2026,
2. Two alternative urban sites for the MRF with the ADF and Composting Area located at the Tajiguas Landfill,
3. MRF located at Tajiguas Landfill and an Aerobic Composting Facility located at Engel and Gray in Santa Maria,
4. Tajiguas Landfill expansion to meet demand up to the year 2036, and
5. Waste exportation after the year 2026 including exportation to the Simi Valley Landfill and the proposed Santa Maria Integrated Waste Management Facility.

2.0 SUMMARY OF PROJECT DESCRIPTION

The County of Santa Barbara RRWMD proposes to develop a Resource Recovery Project that would process municipal solid waste from the communities currently served by the Tajiguas Landfill. The Project will be designed and constructed to process various waste streams delivered to the Tajiguas Landfill from unincorporated areas of the South Coast of Santa Barbara, the Cities of Santa Barbara, Goleta, Buellton, and Solvang as well as the unincorporated Santa Ynez and Cuyama Valley. The Project will be built and operated by Mustang Power Ventures of San Luis Obispo, California.

The waste stream, anticipated to be delivered to the Project site for processing, is municipal solid waste. As an optional project element, co-mingled source separated recyclables (CSSR) could also be brought to the Project for consolidated processing. The Project would be located at the Tajiguas Landfill (**Figure 2**) and would include a MRF to recover recyclable materials, an ADF to process organic waste into biogas and digestate, and an Energy Facility that would use the biogas from the ADF to produce electricity. The digestate would be further cured in outdoor windrows (Composting Area) at the landfill to create compost and soil amendments. Residual waste (residue) from the processing would be disposed of in the landfill. No change in the landfill's permitted capacity is proposed.

The total estimated water demand for the Project including the MRF, ADF, and compost area is 11.5 Acre Feet per Year (AFY). Further breakdown of the project's water budget summary, provided by John Kular Consulting, is included in a spreadsheet (**Appendix A**) which summarizes the revised water balance based on a reconfigured project layout. The Project proposes to use water primarily pumped from existing Well #5 and from Well #6 completed in the Sespe-Alegria Formation (**Figure 3**) as a part of the project. Well #5 is completed in the Vaqueros Formation and is currently used by the landfill as a water source. Well #5 replaced Well #2, which was located on the operations deck and was also completed in the Vaqueros Formation. Well #6 is considered a replacement well for Well #4 which was historically used for landfill operations and was properly destroyed in 2012 as part of the recent landfill reconfiguration project. Well #6 will supply water to the MRF (wash down, domestic, and biofilter use) component of the Project. It is estimated that water use at the MRF will be approximately 6.77 AFY (**Appendix A**). Well #5 will supply water to the ADF (wash down, domestic use, and biofilter use) component of the Project. It is estimated that water use at the ADF will be approximately 3.56 AFY. In addition, approximately 1.17 AFY of water to be applied to the Composting Area will be supplied collectively from Wells #5 and #6.

3.0 HYDROGEOLOGIC AND WATER SUPPLY BASELINE CONDTIONS

3.1 Hydrogeology

The regional setting and existing hydrogeologic conditions for the Tajiguas Landfill were analyzed in detail in 01-EIR-05 including information regarding the landfill water demand and supply for the Landfill Expansion Project. Water demand and supply was re-evaluated in the 08EIR-00000-00007 for the Tajiguas Landfill Reconfiguration Project due to the proposed removal of Well #4, removal of two in-channel sedimentation basins, concrete lining of upper Pila Creek, and additional modification of the waste footprint.

The Tajiguas Landfill and proposed Project are located on the southern slope of the Santa Ynez Mountains. The project area is underlain by moderately to steeply south-dipping sections of consolidated sedimentary units including from oldest to youngest: Gaviota Formation, Sespe-Alegria Formation, Vaqueros Formation, Rincon Formation, and Monterey Formation (**Figures 3 and 4**). The Gaviota and Vaqueros Formation are consolidated sandstone units, the Sespe-Alegria is an interbedded sandstone and siltstone/claystone unit, and the Rincon and Monterey Formations generally consist of mudstones and shales. A thorough description of these formations is provided in the 01-EIR-05. A water supply well for the project, Well #6, was constructed in the Sespe-Alegria Formation in November 2016.

Most of the groundwater in these formations is believed to occur in fractures but some intergranular groundwater is also likely to occur in the sandstone units. Groundwater flow direction is generally to the southwest in the landfill area, although local flow deviations likely occur due to the fractured nature of the aquifer units and the fact that the finer-grained formations, such as the Rincon and Monterey, act as hydraulic boundaries.

Locally, the Vaqueros and Gaviota Formations are generally considered to be important groundwater sources. The groundwater yield and quality (dissolved general minerals) is generally higher in these sandstone units compared to the finer-grained Sespe-Alegria, Rincon, and Monterey units. However, the Sespe-Alegria Formation has previously been an important water source at the Landfill (former Well #4) and some of the water wells at the adjacent Baron Ranch are also completed in the Sespe-Alegria Formation. The Monterey Formation is also a water source for the landfill (Well #3) and the community of Arroyo Quemada located south of the landfill along the coastline. The water quality in the Monterey Formation is generally considered poor. The Total

Dissolved Solids (TDS) in Well #3 was measured at 2,500 milligrams per liter (mg/L) in May 2012.

3.2 Tajiguas Landfill Water Supply

The landfill currently uses a mixture of pumped groundwater, groundwater extracted from a groundwater leachate collection recovery system (GLCRS) Interceptor Trench, and water from the leachate collection systems for its water supply (**Table 1**). Groundwater supplies currently consist of a Vaqueros Formation well (Aera Well) located in Cañada de la Huerta (canyon directly west of the landfill), Well #3 completed in the Monterey Formation southwest of the landfill, and Well #5 completed in the Vaqueros Formation on the east side of the Landfill. Well #5 is currently the only Vaqueros Formation well located in the Landfill watershed area. Landfill collection systems that currently provide a water supply to the landfill include the GLCRS Interceptor Trench, the Groundwater Collection System North of the Landfill (Pila Creek in-channel sump pump [ICSP], and leachate collection systems which include the Horizontal Well Dewatering System (HWDS), the Leachate Collection Recovery System #5, and various dewatering wells. These landfill collection systems are not suitable for domestic water uses due to elevated levels of total dissolved solids (TDS), volatile organic compounds (VOCs), metals and minerals.

As noted above, two prior Landfill water supply wells (Wells #2 and #4) were properly destroyed. Well #2 was completed in the Vaqueros Formation and Well #4 was completed in the Sespe-Alegria Formation. These wells were destroyed as a result of stockpiling activity or Landfill reconfiguration activities in the vicinity of the former wells.

The current baseline water use and supply of the Landfill is summarized below and in **Table 1**. The water demand has been updated from the 01-EIR-05 and 08EIR-00000-00007 based on actual recorded use during 2012. Based on information obtained from 2012 Landfill operations data, an estimated 31 AF of water was required for construction (i.e., liner construction), landfill operation (i.e., dust control), and domestic use in 2012, while a total water supply of 36.5 AF was available for use. Of the available water supply, approximately 29.5 AF are available for landfill operations and construction projects while 7 AF are available for domestic water supply. The available domestic supplies include the Aera Well and Well #5. It should be noted that water supply from the Aera Well is not always reliable. The difference in overall water supply and water use results in an estimated surplus of 5.5 AFY available for usage at the landfill (baseline).

Based on conversations with Santa Barbara County RRWMD personnel, the annual water use for year 2012 represents the expected worst case water demand through closure of the Landfill. In future years, some reduction in Landfill demand may occur since remaining construction projects are smaller and are anticipated to generate a reduced demand and as the phased closure of the Landfill occurs, less water will be required for dust control.

4.0 PROJECT IMPACT ANALYSIS

The proposed Project is located on the Gaviota Coast of Santa Barbara County, California. Previous assessments of the aquifers located beneath the proposed Project are included in Environmental Impact Reports 01-EIR-05 and 08EIR-00000-00007. The aquifers located beneath the proposed Project are composed of consolidated bedrock. The County's Environmental Thresholds and Guidelines Manual (Groundwater Thresholds Manual) states the threshold of significance for consolidated rock aquifers is considered the amount of new pumpage by a proposed project which would place the aquifer in a state of overdraft. In addition, environmental concerns associated with these aquifers include degradation of water quality, long-term loss of well yield, well interference and effects on biological resources, i.e. spring and base flow. In general accordance with CEQA, CCR Title 27, and the Groundwater Thresholds Manual, the water demands of the Project were evaluated to determine the potential impacts on the following:

- Landfill water supply
- Groundwater overdraft (safe yield[1]) in the pumping aquifer,
- Groundwater quality,
- Well interference from utilization of groundwater in the proposed new supply well on water levels in existing site wells,
- Well pumping impacts on springs, and
- Landfill gas migration.

4.1 Landfill Water Supply

The water supply of the landfill has been described in Section 3.2. An analysis of available water supply information along with projected landfill usage is provided in **Table 1**. The water supply for the landfill includes several groundwater wells, water from ground water collection systems, and leachate collection systems (**Table 1**).

---

[1] The County of Santa Barbara Groundwater Thresholds Manual defines safe yield as potential average annual recharge.

The total water demand for the Project is estimated to be 11.5 AFY and includes cumulative totals of domestic, wash-down, biofilter, and compost finishing area usage. It is estimated that well water use will be approximately 6.77 AFY at the MRF, 3.56 AFY at the ADF, and 1.17 AFY at the compost finishing area. The water demand for the MRF is planned to be derived from Well #6 installed in the Sespe-Alegria Formation, located approximately 1,200 feet north of the MRF site (**Figures 2** and **3**). Well #6 replaces former Well #4 which was destroyed during the landfill reconfiguration project and is not included in the baseline landfill water supply estimate (**Table 1**). The water demand for the ADF is planned to be derived from existing Well #5 installed in the Vaqueros Formation and located on the east side of the landfill in close proximity to the planned ADF (**Figures 2** and **3**). Water demand for the composting operations would primarily be provided from the reuse of runoff collected within the Composting Area (Kular, 2013). This water would be collected and stored in a proposed 456,000 gallon Composting Area runoff collection tank. During the summer months, some supplemental water may be required and the estimated additional water demand for the Composting Area (1.17 AFY) is proposed to be derived from Wells #5 and #6.

The estimated total Project water demand (11.5 AFY) is more than the baseline water supply surplus for the landfill (5.5 AFY) as presented in **Table 1.** With the additional volume of water to be provided mostly from Well #6 (presented in **Table 2** as a range between 6.3 - 20 AFY)[2], the estimated water demand for the Project and the landfill is less than the estimated water supply.

4.2 Groundwater Overdraft

Water demand of 6.77 AFY for use at the MRF and approximately 0.72 AFY for use at the compost finishing area is to be derived from a new supply well (Well #6). The new well is installed in the Sespe-Alegria Formation, located approximately 1,200 feet north of the MRF site (**Figure 2**) and replaces former Well #4. Former Well #4 was installed in the Sespe-Alegria Formation near the location of the proposed new supply well. Well yield for the Sespe-Alegria Formation Well #4 was estimated by the RRWMD to be 20 AFY (**Table 2**). Well #4 was in operation for approximately 6 years and available pumping and water level data (i.e., water level data collected during pumping) indicate

[2] A 24-hour duration pump test conducted in December 2016 on Well #6 estimated that Well #6 will have a yield within this range (16.5 AFY).

that between 2006 and 2011 the well was pumped at an average annual rate of 6.3 AFY with no significant changes in groundwater pumping levels. Consequently, Well #6, as a replacement well for Well #4, will have a similar yield (20 AFY as previously estimated by the RRWMD of which 6.3 AFY was actually pumped between 2006 and 2011) with preliminary testing indicating a yield of 16.5 AFY. It is expected that the groundwater level response from pumping will be similar, i.e., no significant change in groundwater pumping level.

The Sespe-Alegria Formation is generally not considered an important water-bearing source in the area. Because Well #6 is a replacement well and the Project has a relatively short duration (20-year life), a quantitative evaluation of the safe yield was not considered. Rather, the environmental impacts associated with pumping were analyzed separately (Sections 4.3 to 4.6). Once the well is operated, a safe-yield analysis for the well using methods outlined in the Groundwater Thresholds Manual could be completed or, as a more appropriate alternative, long-term pumping and water level data could be collected and used with other scientifically accepted methods such as the "Pumpage versus Change in Storage" method[3] to calculate a long-term safe pumping rate (i.e., safe-yield). At this time, based on the water demand of 7.49 AFY at the MRF and compost finishing area, the estimated range in yield of the former Sespe-Alegria Well #4, and short-duration pump test data indicating that Well #6 will yield 16.5 AFY, it is assumed that a single well completed in the Sespe-Alegria aquifer will be capable of meeting the project's water demand. However, for planning purposes a recommendation for siting a second Sespe-Alegria well and for monitoring of water levels and pumping volumes is presented in Section 5.0. It should be noted that the possible addition of a second well in the Sespe-Alegria would not change conclusions reached in the following environmental impact analyses (Sections 4.2 through 4.6).

Water demand of 3.56 AFY for use at the ADF is to be derived from Well #5which is completed in the Vaqueros Formation. The Vaqueros is considered an important water source in the area. As estimated in Geosyntec's *Hydrogeologic Report on the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project*, dated October 23, 2008, a safe yield value of 4 AFY was calculated for the Vaqueros Formation[4] located

---

[3] Changes and trends in storage are estimated by comparing the changing water levels in the aquifer to the total volume of water extracted from the aquifer over a long period of pumping. This method requires collecting long-term water level data from the aquifer as well as maintaining long-term pumping records.

[4] Assumed that recharge in the Vaqueros Formation occurred as direct recharge. 01-EIR-05 estimated that 11.5% of average rainfall recharged the Vaqueros aquifer over approximately 33 acres. A revised

within the landfill watershed. This safe yield value was calculated based on the Groundwater Thresholds Manual methodology in TRC's *Tajiguas Expansion Water Use Versus Supply Memorandum*, dated September 26, 2001 (TRC, 2001). It is estimated that 1.17 AFY of additional water will be required at the Composting Area of which approximately 0.44 AFY will be supplied by Well #5 and the remainder (0.72 AFY) supplied by Well #6 as mentioned above. Since the water demand for the ADF (3.56 AFY) plus a portion of the compost area (0.44 AFY) equals the 4 AFY safe yield for the Vaqueros Formation in the watershed, and the landfill will have a water supply surplus, no potential significant impacts are expected associated with the groundwater pumping from Well #5.

It should be noted that Well #5 is located on the eastern ridge of the Landfill. The Groundwater Thresholds Manual states that a well located within 800 feet of a watershed boundary will access the yield attributable to the adjacent watershed (Baron Ranch). The exposed Vaqueros Formation within Baron Ranch is approximately 2 times larger in area than the exposed Tajiguas Landfill Vaqueros Formation, and the Baron Ranch watershed is more than 5 times larger in area than the Tajiguas Landfill watershed. Based on the area of the Vaqueros Formation exposed within Baron Ranch (approximately 50 acres), the safe yield for the Vaqueros Formation could be on the order of an additional 10 AFY, assuming that the Vaqueros Formation is not used for water supply at the neighboring Baron Ranch. No Vaqueros wells are known to be active on the Baron Ranch property (EMCON, 1994; and Rick Hoffman, personal communication, 2013).

4.3 Groundwater Quality

Groundwater pumping can potentially degrade groundwater quality if wells are over pumped or if safe yields are exceeded. Over pumping an aquifer can potentially produce groundwater level declines (head loss in the aquifer) that cause deeper saline waters to intrude into fresher portions of the aquifer and, in the case of the Gaviota Coast, sea water intrusion. Due to the relatively low amount of water projected to be pumped from Wells #5 and #6 to meet the water supply demands for the Project, it is not expected that over pumping will occur.

---

safe yield used EIR methodology and calculated recharge over 22 acres based on landfill reconfiguration and low permeability material placement.

Available water quality data, although limited, for Well #4 (previous Sespe-Alegria well) and Well #5 indicate that the salinity or TDS concentrations did not increase significantly during initial pumping of these wells. Available water quality data for Well #4 indicate that TDS in the well rose slightly (80 mg/L) after pumping started in the well: TDS was measured at 628 mg/L in September 2005 when the well was installed and then at 708 mg/L in January 2007 after a year of pumping in the well. Available water quality data for Well #5 indicate TDS did not rise in the groundwater after pumping began in early 2011: TDS was measured at 640 mg/L in March 2011 when the well was installed and at 630 mg/L in May 2012 after approximately ½ year of pumping. Furthermore, sea water intrusion into the bedrock aquifers is highly unlikely because the Vaqueros and Sespe-Alegria Formations are not hydraulically connected to the ocean as the formations lie stratigraphically below the Rincon and Monterey Formations which are shale formations and act as hydraulic boundaries to ocean water intrusion. Consequently, the potential for pumping to significantly impact groundwater quality is considered low and impacts would not be significant.

4.4 Well Interference

Groundwater pumping in a well has the potential to drawdown groundwater levels in neighboring wells. If the drawdown is large then there is potential to significantly increase pumping costs (i.e, electrical consumption) or even dry up a well. For this analysis the potential well interference was evaluated for proposed pumping in Well #5 and proposed Well #6. Hydraulic connection between the bedrock aquifers beneath the Project area is generally considered low because of the interlayered shale, mudstone, and claystone layers in the bedrock formations. These interbedded shale and claystone/mudstone layers act as hydraulic boundaries. Wells completed in one bedrock formation or bedrock aquifer should not significantly impact groundwater levels in other adjacent formations or aquifers. That is, pumping in the new Well #6, completed in the Sespe-Alegria Formation, should not significantly impact groundwater levels in the adjacent Vaqueros Formation (Well #5) and Monterey Formation (Well #3) and vice versa. A geologic cross-section schematically showing the well locations is presented on **Figure 4**.

The highest potential for well interference in the Project area is for pumping in any one well to impact groundwater levels in a well installed in the same bedrock aquifer. The bedrock formations/aquifers beneath the Project area are all steeply dipping to the south with east-west strikes (**Figure 4**). The potential for pumping in Well #5 and Well #6 to impact wells located along strike, or to the east and west is discussed below.

Well Interference within the Vaqueros Formation

Pumping in Well #5 to meet Project demand is estimated at 4.0 AFY. Should additional pumping from Well #5 for compost area water be necessary, for instance the additional 0.72 AFY planned to be derived from Well #6, this would equate to an additional 0.45 gallons per minute (gpm) of pumping to achieve the additional volume. The nearest neighboring wells to the east of Well #5 are wells located on Baron Ranch. No known active Vaqueros wells are located on the Baron Ranch (EMCON, 1994; Rick Hoffman, personal communication, 2013). The nearest Vaqueros well to the west is the Aera Well located in Cañada de la Huerta canyon. The Aera Well is located approximately 2,500 feet west of Well #5 (**Figure 3**) and in another watershed. The Groundwater Thresholds Manual indicates that a reasonable radius of influence for a Vaqueros Formation well is 800 feet. Based on 1) the low estimated demand for the project (potentially an additional 0.72 AFY or 0.45 gpm), 2) the potential for a much higher safe yield due to the large area of exposed Vaqueros Formation within Baron Ranch (discussed in Section 4.2), and 3) the fact that the closest neighboring well is located at least 2,500 feet away from Well #5 and beyond the reasonable radius of influence, well interference from proposed additional pumping in Well #5 is not considered significant.

Well Interference within the Sespe-Alegria Formation

Proposed pumping in new Well #6 completed in the Sespe-Alegria Formation is estimated at 7.49 AFY. This equates to a long-term pumping rate of approximately 4.64 gpm. The nearest neighboring Sespe-Alegria wells to the east of Well #6 are located within Baron Ranch and are approximately 3,500 feet away (Wells A and C). Based on EMCON (1994) and a file review of neighboring properties on June 3, 2013, at the Santa Barbara County Department of Environmental Health Services, no active Sespe-Alegria wells are known to be located west of Well #6 within a mile of the proposed location of Well #6 (EMCON, 1994).

The Groundwater Thresholds Manual does not indicate a reasonable radius of influence for the Sespe-Alegria Formation. To estimate the potential well interference of the planned Well #6 on the Baron Ranch wells, drawdown was estimated using the Theis Equation. No specific transmissivity and hydraulic conductivity values derived from aquifer testing on Tajiguas Landfill water supply wells installed in the Sespe-Alegria are available. However, Hoffman (2002) completed aquifer tests on two wells completed in the Sespe-Alegria Formation on the adjacent Baron Ranch. Transmissivity was reported at 4.5 ft^2/day and 23.9 ft^2/day. Assuming that the screen interval of the wells (450 feet) is equivalent to aquifer thickness and averaging the two transmissivity values, a

hydraulic conductivity of 0.032 ft/day is derived.[5] Using the Theis Equation, and based on the average hydraulic conductivity (0.032 ft/day), a long term pumping rate of 4.64 gpm, and a screen interval or aquifer thickness of 350 feet at the planned Well #6 location, it is estimated that after 20 years of pumping, groundwater level drawdown (well interference) would be approximately 4 ½ feet at the Baron Ranch well locations. Wells A and C are 585 and 561 feet deep, respectively and have 411 and 226 feet of water column above the reported pump depths, respectively (Hoffman, 2002). Therefore, the estimated drawdown from the pumping of proposed Well #6 would not significantly impact the water column in the Baron Ranch Sespe-Alegria wells. Consequently, the estimated drawdown of 4 ½ feet indicates that potential for significant well interference is low. Well interference from the planned pumping in the proposed well #6 is not considered significant.

4.5 Well Pumping Impacts on Springs and Streamflow

Former seeps located within Pila Creek were covered with low permeability material and a subdrain was installed to collect this water during the Landfill Reconfiguration Project. The low permeability material was placed over the entire Vaqueros Formation within Pila Creek and portions of the Sespe-Alegria Formation. No additional seeps or springs are known to exist in Pila Creek within the Vaqueros or Sespe-Alegria Formations. Therefore, groundwater pumping in these formations will not significantly impact spring flow or stream baseflow in the watershed area.

Pumpage from Well #6 is also not expected to significantly impact springs or stream baseflow on the Baron Ranch because: 1) there are no reported springs in the Sespe Alegria Formation on the Baron Ranch (Anikouchine, 1991), 2) the bedded nature of the Sespe Alegria Formation will impede the vertical communication of groundwater and surface water, and 3) a low amount of drawdown is predicted (i.e., potentiometric head reduction) in the area of Baron Ranch, as discussed in Section 4.4.

4.6 Landfill Gas Migration

The potential for construction and operation of the new Well #6 to enable landfill gas migration to the groundwater table was evaluated. Landfill gas migration can potentially degrade the groundwater quality of an aquifer via two possible routes: (1) landfill gas diffusing through the vadose zone could interact with the groundwater at the

[5] Hydraulic conductivity of a formation is derived by dividing the transmissivity by the aquifer thickness.

capillary fringe (top of groundwater), causing gas constituents to dissolve, and (2) landfill gas migration from the landfilled waste could occur within the casing of a groundwater well in the event that the top of the well screen is above the water table or within the well borehole annulus where sand filter pack occurs (i.e., the well provides a conduit for landfill gas migration to the groundwater). The potential for the construction and operation of Well #6 to enable landfill gas migration and degrade groundwater quality is considered low based on the following rationale:

- The proposed location of Well #6, **Figure 3**, is situated approximately 115 feet to the west of a lined portion of the landfill and approximately 1,000 feet north of an unlined portion of the landfill. The landfill liner, where applicable, and landfill gas collection system will reduce the potential for landfill gas to migrate westward to the proposed well location.

- Groundwater pumping in the well will decrease groundwater levels, thus increasing the distance from the bottom of the landfill to the top of the groundwater table. Regulation requires a minimum of five feet distance between a landfill liner system and the highest predicted groundwater levels. The increased distance between the groundwater table and the bottom of the landfill will reduce the potential for landfill gas to interact with groundwater.

In order to further reduce the potential for proposed Well #6 to act as a conduit for landfill gas migration to the groundwater, the screened portion of the well was installed below the top of the groundwater table, as is common construction practice for a water supply well, and below the base of the landfill liner system adjacent to the well. In addition, the well sanitary seal that is required per California Well Standards (CDWR, 1991), was installed through the unsaturated portion of the formation (vadose zone) and below the top of groundwater (see Section 5.0). With implementation of these well construction measures along with the low potential for Well #6 to provide a landfill gas conduit, the potential impacts of the project on downward landfill gas migration is considered less than significant.

5.0 RECOMMENDATIONS / MITIGATION MEASURES

The following standard well construction/design measures would reduce the potential for proposed Well #6 to act as a conduit for landfill gas migration to the groundwater:

- Well #6 was constructed so the well screen is sufficiently below the top of the groundwater table so that the well screen is not exposed due to declining water levels from pumping. The anticipated pumping levels should be taken into account so that the groundwater level does not drop below the top of the well screen. This is common water well construction practice. Additionally, the sanitary seal of Well #6 shall be constructed so it extends to at least the top of the static groundwater table.

The following measures are not required for mitigation purposes but are recommended for planning purposes to better manage groundwater resources:

- In order to better define the groundwater yield of the Sespe-Alegria aquifer, it is recommended that a groundwater monitoring program be established in order to monitor static and pumping groundwater levels along with pumping rates and volumes after installation of Well #6. Standard hydrogeologic methods should be used to analyze the data and manage the groundwater resources.

- Groundwater levels and pumping volumes should continue to be monitored in the Vaqueros Formation Well #5 to manage the groundwater resources.

An additional Sespe-Alegria well could be preliminarily sited for planning purposes. The well would only be installed if Well #6 does not meet the Project's water demand.

6.0 CUMULATIVE IMPACT ANALYSIS

Groundwater in the Sespe-Alegria Formation is generally considered to be localized and, subsequently, the Sespe-Alegria is not considered to be an important groundwater bearing source. There are no cumulative projects listed (**Appendix B**) that are located in the Pila Creek watershed where the project's Well #6 is located. In addition, based on the location and project descriptions, no cumulative projects listed within a three-mile radius of Well #6 will likely derive water from the Sespe-Alegria bedrock source. The Vaqueros Formation; however, is considered an important water source in the area. Well #5, installed in the Vaqueros Formation will provide water to the project but will not exceed the safe yield for the formation. Additionally, there are no wells installed in the Vaqueros Formation in the immediately adjacent watershed nor any cumulative projects listed (**Appendix B**) that would draw water from the Vaqueros Formation. Consequently, cumulative groundwater supply impacts and other associated groundwater pumping impacts are considered to be less than significant.

7.0 PROJECT ALTERNATIVE ANALYSIS

To meet the requirements of the California Environmental Quality Act (CEQA), seven potential alternatives have been identified. These seven alternatives include the following:

1. No Project – Assumes existing waste management practices with the Tajiguas Landfill reaching capacity in the year 2026;
2. Urban area MRF Alternative 1 – MRF at property owned by MarBorg Industries in the City of Santa Barbara and the ADF, Composting Area, and residual waste disposal would remain at the Tajiguas Landfill;
3. Urban area MRF Alternative 2 – MRF at the South Coast Recycling and Transfer Station (SCRTS) and the ADF, Composting Area and residual waste disposal would remain at the Tajiguas Landfill;
4. MRF located at Tajiguas Landfill and an Aerobic Composting of organics at the existing Engel and Gray Composting Facility in Santa Maria;
5. Tajiguas Landfill expansion to provide an equivalent disposal capacity to meet demand up to approximately the year 2036;
6. Waste exportation after the closure of the Tajiguas Landfill in approximately year 2026 to the proposed Simi Valley Landfill and Recycling Center Expansion Project (Simi Valley Landfill RCEP); and
7. Waste exportation after the closure of the Tajiguas Landfill in approximately year 2026 to the proposed Santa Maria Integrated Waste Management Facility (Santa Maria IWMF).

7.1 No Project

Under the 'No Project' alternative waste disposal activities would continue at the Tajiguas Landfill as currently conducted and no additional recovery of recyclables or organics from the municipal solid wastes (MSW) would occur. Overall landfill capacity would be reached in approximately the year 2026. No increase in water demand (or groundwater demand) is expected through 2026 at the landfill for the 'No Project' alternative (water supply and demand for the current landfill operations are provided in **Table 1**). Thus, no additional water supply impacts and associated groundwater impacts at the landfill through 2026 are expected under the 'No Project' alternative. Under the 'No Project' Alternative, to meet the continued need for waste disposal services, the Tajiguas landfill would either need to be expanded or waste would need to be exported to and disposed of at another landfill after 2026. These alternatives are described in sections 7.4 and 7.5.

7.2 Alternative MRF Locations

Two urban sites are proposed as alternative locations for the MRF while the ADF, Composting Area and residual waste disposal would remain at the Tajiguas Landfill. With the reduction of facilities located at the Tajiguas Landfill, the water demand (4.73 AFY for the ADF and Composting Area) will be reduced and less than the baseline water supply identified in section 4.1. The alternative MRF locations are:

1. Within the City of Santa Barbara at the MarBorg property located at 620 Quinientos Street, and
2. The South Coast Recycling and Transfer Station (SCRTS) located on the south coast of Santa Barbara County.

7.2.1 MarBorg MRF Alternative

If the MRF was constructed at the MarBorg property, an estimated 2,600 gallons per day (gpd) would be used domestically and an additional 200 gpd would be used for misting operations (MarBorg Industries, 2013). The total amount of water usage, for the MarBorg Alternative MRF is estimated to be 2.68 AFY. The City of Santa Barbara's water supply comes primarily from the following sources, with the actual share of each determined by availability and level of customer demand: Lake Cachuma and Tecolote Tunnel; Gibraltar Reservoir, Devils Canyon and Mission Tunnel; groundwater; State Water Project Table A allotment; desalination; and recycled water. Conservation and efficiency improvements are projected to contribute to the supply by offsetting demand that would otherwise have to be supplied by additional sources. On June 14, 2011, based on the comprehensive review of the City's water supply, the City Council approved the Long Term Water Supply Program (LTWSP) for the planning period 2011-2030. The LTWSP outlines a strategy to use the above sources to meet the City's estimated system demand (potable plus recycled water) of 14,000 AFY, plus a 10% safety margin equal to 1,400 AFY, for a total water supply target of 15,400 AFY. The LTWSP concludes that the City's water supply is adequate to serve the anticipated demand plus safety margin during the planning period. Additionally, based on personal communications with City of Santa Barbara Water Resources Manager Rebecca Bjork (January 18, 2013), the water requirements of the MRF located at the MarBorg property would not have a significant impact on the City of Santa Barbara's water supply. It was noted by the water resources manager that recycled water would be the preferred source where applicable.

7.2.2 SCRTS MRF Alternative

If the MRF was constructed at the SCRTS property, an estimated 10 AFY of water would be required for domestic and operational purposes[6]. The SCRTS site is served by the Goleta Water District (GWD). The GWD receives supplies from Lake Cachuma, groundwater, the State Water Project and some limited supplies of reclaimed water. Based on personal communications with Carrie Bennet, a Goleta Water District Associate Water Resources Analyst, on June 17, 2013, the water requirements of the MRF at the SCRTS property (9.97 AFY) are within the Goleta Water District's annual water allotment for new projects. Therefore, the MRF project would not have a significant impact on the Goleta Water District's water supply.

7.3 Aerobic Composting at Off-Site Location

This alternative entails constructing the MRF and disposing of residual materials at the Tajiguas Landfill and transporting and processing the recovered organic material through aerobic composting at the existing Engel and Gray Compositing Facility (Engel and Gray) in Santa Maria, California. Up to an additional 240 tons/day or 73,600 tons/year of organic waste would be transported from the MRF at Tajiguas to Engel and Gray for composting. Based on the estimated rate of 240 tons/day or 370 cubic yards/day[7] coming from Tajiguas, the Engel and Gray facility would receive an additional 113,230 cubic yards/year. The composting facility water supply is an agricultural well which is completed in the Santa Maria Groundwater Basin. Engel and Gray estimates that approximately 90 gallons of water is required per cubic yard of compost at their facility (Engel and Gray, September 2009). Using this estimate, the proposed additional volume of composting material (113,230 cubic yards) will require approximately 31 AFY of additional water use. It is assumed that the additional material would be processed within the existing permitted capacity [400,000 cubic yards (Solid Waste Facility Permit 42-AA-0053)] of the Engel and Gray facility which was analyzed in prior environmental documents (Conditional Negative Declaration SP-94 28 & E94-56 and CEQA Section 15164 (Addendum) to SP-94-28 (City of Santa Maria,

---

[6] Note that the significant difference is estimated demand between construction of the MRF at the MarBorg Alternative site as compared to the SCRTS Alternative site is associated with the proposed air quality treatment systems. The MarBorg MRF Alternative includes use of an activated carbon filtration system along with misting whereas the SCRTS MRF Alternative includes the use of biofilters.

[7] Based on an estimated density for compost of 0.65 tons per cubic yard provided by Mustang Energy.

June 1995 and July 2008). These documents did not identify significant water supply/groundwater impacts associated with operation of the composting facility.

As noted above, under this alternative the MRF would be constructed at the Tajiguas Landfill. With the elimination of the ADF and the Composting Area the revised water demand for the MRF would be 6.77 AFY. With the reduction of facilities located at the Tajiguas Landfill and the additional volume of water to be provided from proposed Well #6, the water demand is less than the estimated water supply identified in section 4.1.

7.4 Landfill Expansion

Under the Landfill Expansion Alternative, the Tajiguas Landfill would be expanded horizontally and vertically to provide additional disposal capacity to meet the community's disposal needs to approximately the year 2036 with no further recovery of recyclable materials or organics from the MSW. Implementation of this alternative would require water for additional landfill cell and groundwater protection system construction, operations, and dust control. The water demand would be similar to existing landfill operations and the water balance of the landfill would remain roughly the same as outlined in **Table 1**. Consequently, this alternative would not significantly affect the landfill water supply or groundwater conditions.

7.5 Waste Exportation

Under the Waste Exportation Alternatives, after closure of the Tajiguas Landfill in approximately 2026, the community's waste disposal needs would be met by exporting waste to either the proposed Simi Valley Landfill Expansion or the proposed Santa Maria Integrated Waste Management Facility (Santa Maria IWMF) with no further recovery of recyclable materials or organics from the MSW.

7.5.1 Export to the Proposed Simi Valley Landfill

The source of water for operations at the Simi Valley Landfill is the Calleguas Municipal Water District (CMWD) which receives its main source of water from the State Water Project. According to The *Simi Valley Landfill and Recycling Center Expansion Project Final EIR (Ventura County*, December 2010), estimated water demand for overall construction and operation of the Simi Landfill is 174 AFY. The EIR identifies that because the project would be served by the CMWD, water supply impacts would be less than significant.

7.5.2 Export to the Proposed Santa Maria IWMF

The source of water for the proposed Santa Maria IWMF is the Santa Maria Groundwater Basin. Based on the *Santa Maria Integrated Waste Management Facility Project – Final Environmental Impact Report (City of Santa Maria* April 2010), the projected water demand for construction and operation of the Santa Maria IWMF is estimated at 35.2 AFY to be extracted from the Santa Maria Groundwater Basin through an existing on-site well. The EIR identified impacts due to water demand and groundwater recharge to be less than significant.

8.0 REFERENCES

Anakouchine, William, 1991, Groundwater Potential, Baron Ranch, consulting report for Santa Barbara County Department of Public Works dated June 25, 1991.

California Department of Water Resources (CDWR), June 1991. California Well Standards, Bulletin 74-90 (Supplement to Bulletin 74-81).

City of Santa Barbara Water Resources Manager. Bjork, Rebecca, January 18, 2013. Personal Communication.

City of Santa Maria, June 1995. Conditional Negative Declaration SP-94 28 & E94-56.

City of Santa Maria, July 2008. CEQA Section 15164 - Addendum to SP-94-28.

City of Santa Maria, April 2010. Santa Maria Integrated Waste Management Facility Project – Final Environmental Impact Report.

County of Santa Barbara, 1995 (updated 2006). Environmental Thresholds and Guidelines Manual.

County of Santa Barbara, 2002. Final Tajiguas Landfill Expansion Project, Environmental Impact Report (01-EIR-05).

County of Santa Barbara, March 2009. Final Subsequent Environmental Impact Report for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project (08EIR-00000-00007).

EMCON Associates, 1994. Tajiguas Landfill Well Construction Data.

Engel and Gray, September 2009. Engel and Gray Regional Composting Facility Report of Compositing Site Information. Prepared for the California Integrated Waste Management Board (now Calrecycle).

Geosyntec Consultants, October 23, 2008. Hydrogeologic Report on the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project.

Goleta Water District Associate Water Resources Analyst. Bennet, Carrie, June 17, 2013. Personal Communication.

Rick Hoffman & Associates, September 3, 2002. Water Well Production Update Letter – Baron Ranch Well "A" and Well "C".

Rick Hoffman & Associates. Hoffman, Rick, 2013. Personal Communication.

John Kular Consulting, May 24, 2013. Tajiguas Resource Recovery Project – Preliminary Water Supply, Storage, Transmission and Distribution, Revision 1.

MarBorg Industries, March 18, 2013. Email correspondence to Joddi Leipner.

Ventura County, December 2010. Simi Valley Landfill and Recycling Center Expansion Project Final EIR.

TRC, September 26, 2001. Tajiguas Expansion Water Use Versus Supply Memorandum.

TABLES

TABLE 1
YEAR 2012 BASELINE AVERAGE ANNUAL WATER USE AND SUPPLY ESTIMATES
TAJIGUAS LANDFILL OPERATIONS AND CONSTRUCTION

Category	Estimated Quantity (AF/Y)
Projected Water Use	
Landfill Domestic[1]	3
Landfill Operation[1]	18
Landfill Construction[2]	10
Total Estimated Water Use	**31**
Projected Water Supply	
GLCRS Interceptor Trench[3]	11*
Canada de la Huerta (Aera Well)[1]	3
Groundwater Collection System North of LF (ICSP)[1]	1*
Well No. 3 in Monterey formation[4]	16*
Well #5[5]	4
HWDS,LCRS#5,DW-Wells[6]	1.5*
Total Estimated Water Supply	**36.5**
Estimated Water Balance (Water Supply minus Water Use)	**5.5**

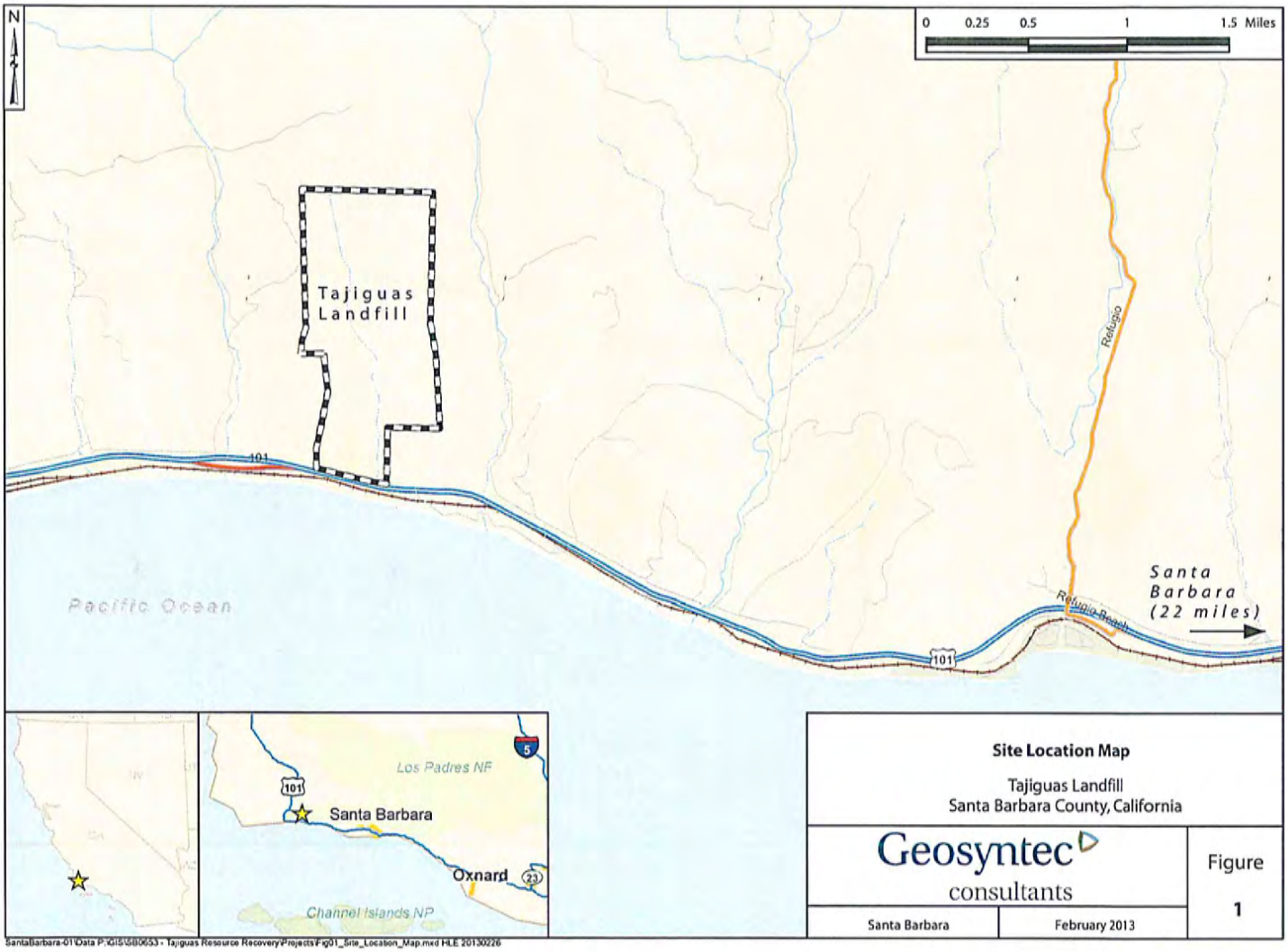
[1]Based on 2012 landfill operations water use per Tajiguas Landfill Operations Data.
[2]From estimate provided by SWT Civil Engineering and County of Santa Barbara, June 2012
[3]Based on annual totals from RWQCB Reports relative to median rainfall totals generated by Santa Barbara Flood Control District Rainfall Records.
[4]Reported by Moore and Taber, February 17, 1998, indicates a potential 20-25 gpm long-term sustainable pumping rate based on a short-term aquifer test. Conservatively reduced to 10 gpm for this analysis (i.e.,16 AF/Y)
[5]Hydrogeologic Report on the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project. Geosyntec Consultants. October 23, 2008.
[6]Based on annual totals from RWQCB Reports. This supply to be used on landfill footprint only per RWQCB.
*Water supply available for operation and construction, not suitable for domestic supply.

TABLE 2
YEAR 2012 BASELINE + PROJECT AVERAGE ANNUAL WATER USE AND SUPPLY ESTIMATES
TAJIGUAS LANDFILL OPERATIONS AND CONSTRUCTION

Category	Estimated Quantity (AF/Y)
Projected Water Use	
Landfill Domestic[1]	3
Landfill Operation[1]	18
Landfill Construction[2]	10
Resource and Recovery Project	11.5
Total Estimated Water Use	**42.5**
Projected Water Supply	
GLCRS Interceptor Trench[3]	11*
Canada de la Huerta (Aera Well)[1]	3
Groundwater Collection System North of LF (ICSP)[1]	1*
Well No. 3 in Monterey formation[4]	16*
Well #5[5]	4
HWDS,LCRS#5,DW-Wells[6]	1.5*
Replacement well for Well No. 4 in Sespe-Alegria Formation (Well #6)[7]	6.3-20[7]
Total Estimated Water Supply	**42.8 - 56.5**
Estimated Water Balance (Water Supply minus Water Use)	**0.3 - 14**

[1]Based on 2012 landfill operations water use per Tajiguas Landfill Operations Data.
[2]From estimate provided by SWT Civil Engineering and County of Santa Barbara, June 2012
[3]Based on annual totals from RWQCB Reports relative to median rainfall totals generated by Santa Barbara Flood Control District Rainfall Records.
[4]Reported by Moore and Taber, February 17, 1998, indicates a potential 20-25 gpm long-term sustainable pumping rate based on a short-term aquifer test. Conservatively reduced to 10 gpm for this analysis (i.e.,16 AF/Y)
[5]Hydrogeologic Report on the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project. Geosyntec Consultants. October 23, 2008.
[6]Based on annual totals from RWQCB Reports. This supply to be used on landfill footprint only per RWQCB.
[7]Well No.6 was completed in the Sespe-Alegria formation and replaces destroyed Well No.4. County of Santa Barbara reports that Well No.4 was completed in the Sespe-Alegria formation and had been pumping at a rate of approximately 25 gpm over long periods of time. The reported long-term sustainable supply estimate of 20 AF/Y for Well No.4 is based on half of this pumping rate (12½ gpm). The lower range value of 6.3 AF/Y is an average of the actual pumping data for years 2006 through 2011. A 24-hour duration pump test conducted in December 2016 on Well #6 estimated that Well #6 will have a yield within this range (~16.5 AF/Y).
*Water supply available for operation and construction, not suitable for domestic supply.

FIGURES



Site Location Map

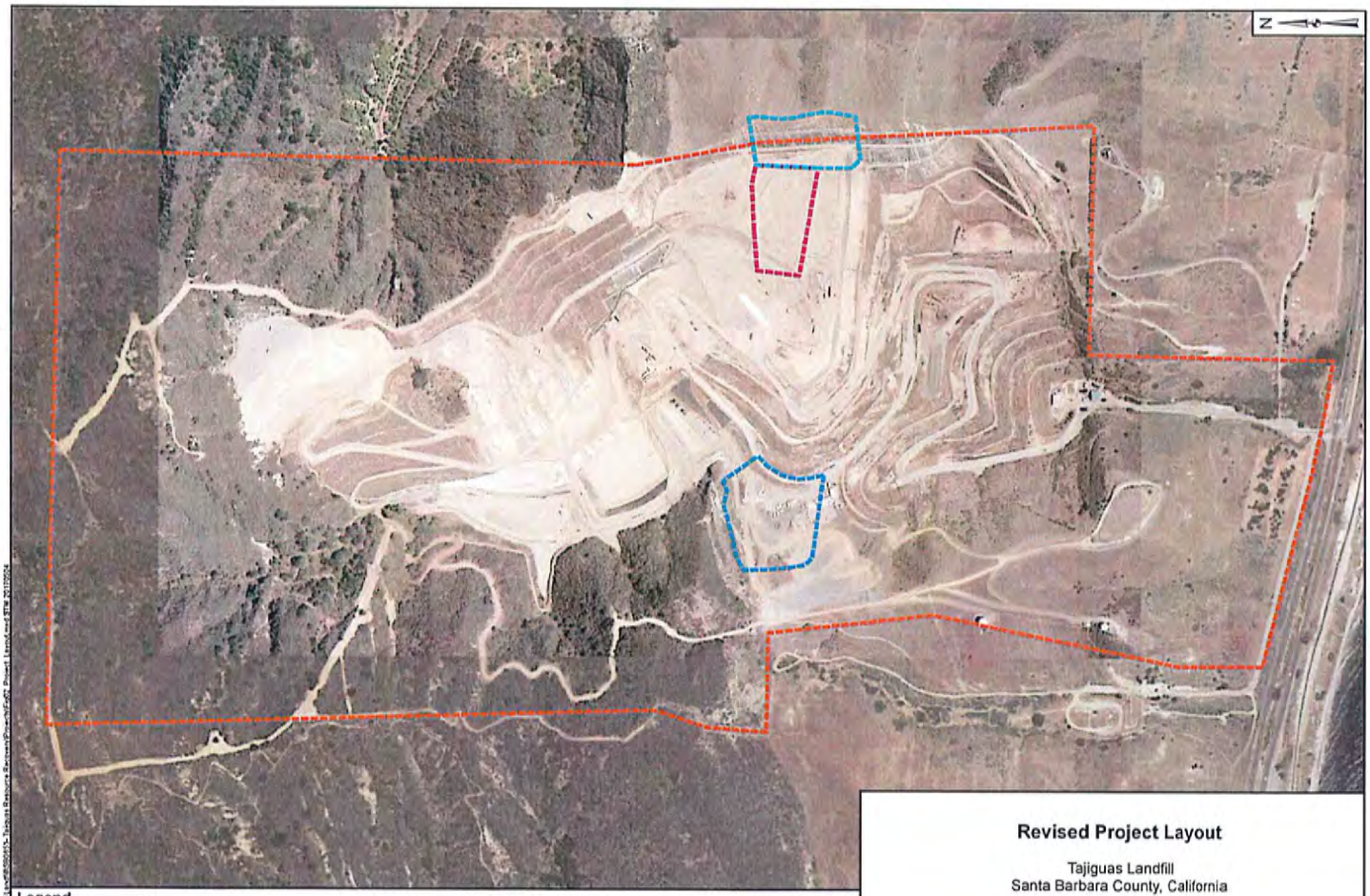
Tajiguas Landfill
Santa Barbara County, California

Geosyntec consultants

Figure 1

Santa Barbara | February 2013

SantaBarbara-01\Data P:\GIS\GB0653 - Tajiguas Resource Recovery\Projects\Fig01_Site_Location_Map.mxd HLE 20130226



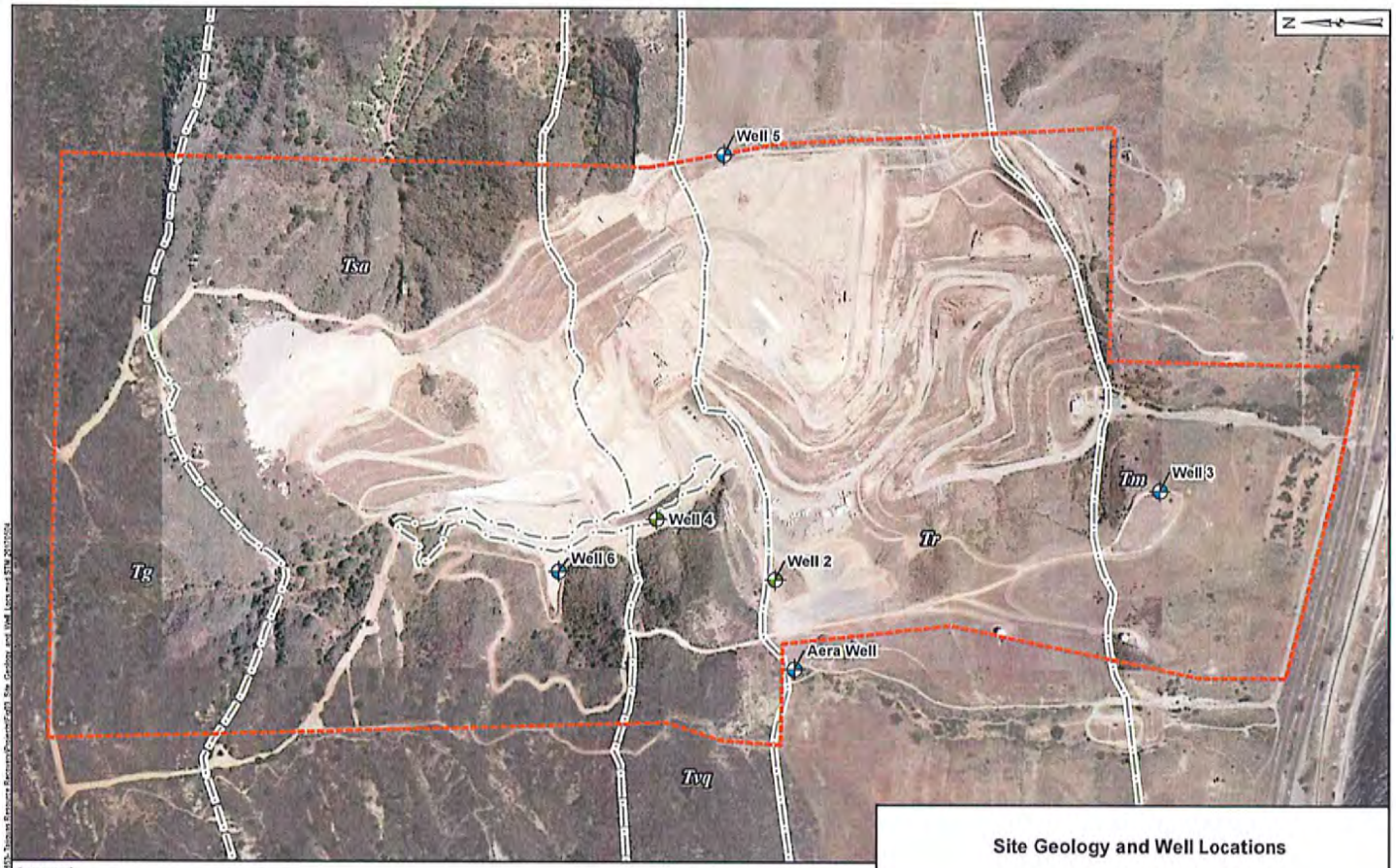
Revised Project Layout

Tajiguas Landfill
Santa Barbara County, California

Geosyntec consultants

Santa Barbara | May 2017

Figure 2



Legend

- Existing Well
- Former Well
- Landfill Property Boundary
- Contact Between Geologic Formations

800 400 0 800 Feet

Tm: Monterey Shale
Tr: Rincon Shale
Tvq: Vaqueros Formation
Tsa: Sespe and Alegria Formation
Tg: Gaviota Formation

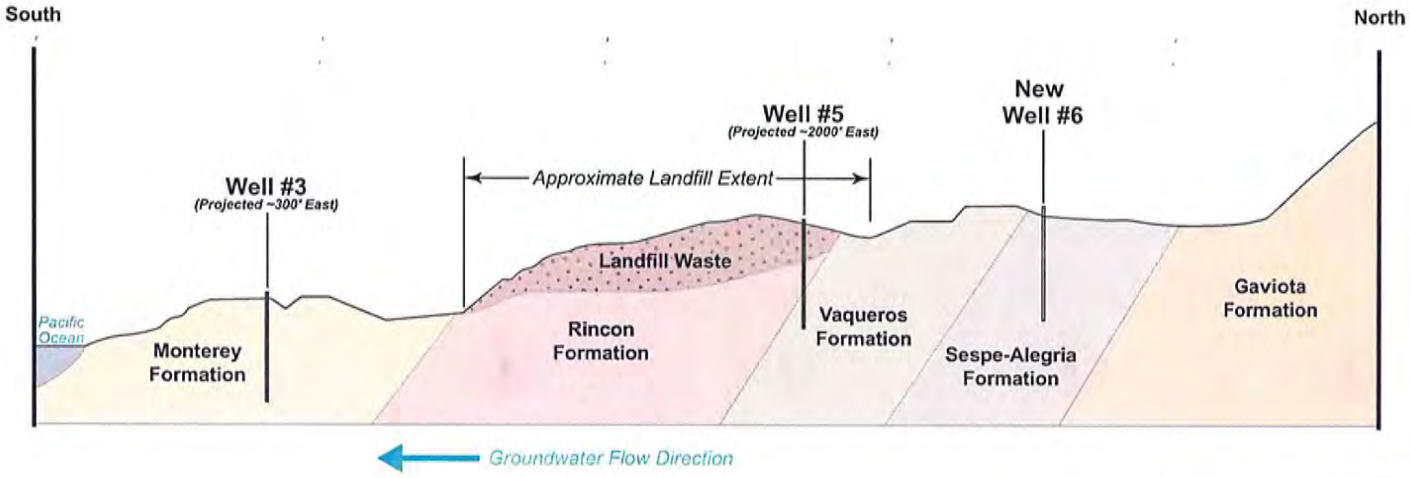
Site Geology and Well Locations

Tajiguas Landfill
Santa Barbara County, California

Geosyntec consultants

Santa Barbara | May 2017

Figure 3



Not to Scale

Generalized Schematic Cross-Section

Tajiguas Landfill
Santa Barbara County, California

Geosyntec consultants

Santa Barbara | May 2013

Figure 4

P:\GIS\Marketing\2013_05\TajiguasSection.ai

APPENDIX A

JOHN KULAR CONSULTING

May 24, 2013

John Dewey
CEO
Mustang Renewable Power Ventures, LLC
750 Pismo St.
San Luis Obispo, CA 93401

Dear John:

RE: Tajiguas Resource Recovery Project – Preliminary Water Supply, Storage, Transmission and Distribution, Revision 1

This revision adds biofilter water consumption as well as updates to landscape irrigation and composting area water storage and re-use.

1.0 Water Supply and Treatment

There are two operating wells and two closed wells on the Tajiguas Landfill site. Table 1 summarizes key features of these wells. All of the wells have relatively low yields and the landfill has had challenges in meeting its own water needs during dry years. Therefore, Tajiguas Resource Recovery Project (TRRP) will require its own well to supply the MRF and ADF.

Table -1 Existing Landfill Water Wells

Well #	Distance to site (ft.)	Aquifer Name	Yield (GPM)	Water Table Elevation (ft.)
2 (closed)	On-site	Vaqueros	20	250
3	1700 ft. S	Monterey	12	210
4 (closed)	850 ft. NE	Sespe Allegria	30	250
5	2200 ft. E	Vaqueros	15	434

10901 Rockridge Way
Bakersfield CA 93311
661.663.7732
661.302.1292

www.kularconsult.com

The project site overlies the Vaqueros formation aquifer. Vaqueros aquifer waters typically contain elevated Total Dissolved Solids (TDS), sulphates and chlorides due to the presence of ancient marine shale. The well quality records for Well 4 and Well 5 exhibit similarly elevated TDS, sulphates and chloride levels although they are within California and EPA drinking water standards. Well # 3 has significantly higher sulphate and chloride levels, with TDS levels more than twice as high. In addition, Well #3 has very elevated iron levels. Prior studies have identified safe yield constraints on the Vaqueros supply and the landfill currently uses Well 5, a Vaqueros well.

Therefore it is recommended that the proposed MRF and ADF supply well be located north-east of the proposed water tank (Well 6), roughly 1200 feet north of the TRRP site. This well will draw water from the Sespe Allegria formation. Exhibit W-1 shows the proposed water storage and distribution system.

Anticipated well yield is approximately 10-20 GPM. Careful planning will be required to stage the initial filling of the water storage tank and percolate tanks.

Chlorine disinfection may be required to keep the treated water potable and to inhibit algae growth within the storage tank and water mains.

1.1 Fire Protection

The fire flows and fire flow storage were calculated in accordance with the California 2010 Fire Code, Title 24, Chapter 9 and Table B.105.

Table – 2 Fire Protection Requirements

Building/ Type	Building Area (SF)	Fire Flow (GPM)	Sprinkler Credit	Adjusted Building Area (SF)	Fire Duration	Fire storage (Gallons)
ADF, Type IA	63400	2750	50%	1375	2	165,000
MRF, Type IIA	58800	3500	50%	1750	2	210,000

The MRF has the higher fire flow requirement, so 210,000 gallons of fire storage will be provided.

1.2 Process Water

The MRF has no process water requirements other than wash-down of some work areas. Daily wash down is estimated as 500 GPD.

The ADF has an estimated daily wash down requirement of 500 GPD. The digestion process utilizes three storage tanks of percolate with a combined volume of 300,000 gallons. The digestion process is a closed loop system. All percolate is recovered and recycled.

1.3 Domestic Water

Based on the CalGreen 2010 Building Code, estimated domestic water consumption is 1745 GPD. This represents a 28.5% reduction from the 2006 Uniform Plumbing Code and incorporates water saving devices such as low flush toilets and aerating faucets. California environmental health regulations dictate that all domestic water meets the standards for human consumption, even if the water is used for flushing toilets or showers.

1.5 Biofilter Water Use

The biofilters which remove odors from the MRF and ADF air streams before discharging the air to the atmosphere also consume water to keep the biofilter media moist and functioning. The biofilters consume 6964 GPD (7.801 acre-ft/yr). 85% of this water is lost to the atmosphere as evaporation. 15% is collected as condensate. Clean condensate from the humidifier is recycled through the biofilter. Dirty condensate from the biofilter is conveyed to the wastewater treatment system. In order to minimize water use and wastewater disposal, domestic wastewater can be treated and re-used for humidification of the biofilter. These recycling measures will reduce biofilter net water consumption by approximately 32% to 4736 GPD or 5.30 acre-feet/year.

1.6 Compost Process Water Requirements

The compost finishing process is estimated to require up to 2200GPD (0.60 acre-ft/yr) to replace water lost to evaporation during the driest months of the year. The source of this water will be Well #5. The Composting Area will also be a source of water (storm water runoff) following rainfall events. 2.90 acre-feet of runoff will be used for compost watering in an average year. A more comprehensive discussion of the runoff collection, treatment, storage and reuse is found in *Tajiguas Resource Recovery Project – Composting Area,* John Kular Consulting, October, 2012.

Table 1 – Summary of Average Net Water Consumption

Component	MRF GPD/Acre-Ft/Yr.	ADF GPD/Acre-Ft/Yr.	Composting Acre-Ft/Yr.
Domestic Use	1645/1.84	100/0.11	N/A
Wash Down	500/0.61	500/0.61	N/A
Biofilter*	3818/4.28	918/1.02	N/A
Compost Watering	N/A	N/A	0.60

* Net consumption after wastewater and condensate recycling.

2.0 Water storage

2.1 Water Storage (MRF & ADF)

Water for consumption and fire protection will be stored in a 220,000 gallon tank adjacent to the proposed well on a ridge to the north and west of the TRRP facilities. The tank site is located at an elevation of 610 feet above mean sea level. The tank capacity provides the equivalent volume of the fire flow plus four days of water consumption. The tank will be 50 feet in diameter and 15 feet tall to minimize the visual impact.

2.2 Water Storage (Landscape Irrigation)

Approximately 1.8 acres of landscaped area surrounding the MFR and ADF buildings will be irrigated with recycled water (treated waste water from the MRF and ADF buildings). Annual recycled water re-use is anticipated to be 2.02 acre-feet/year.

2.3 Water Storage and Treatment (Composting Area)

Composting Area pad runoff will be stored in a 325,000 gallon storage tank (See Exhibit CFA-) located on a pad approximately 800 feet northeast of the Composting Area. Storm water runoff from the Composting Area pad will be collected via asphalt swales and into a baffled Baker tank, and then pumped into the Composting Area Runoff Collection Tank. The RWQCB requires that composting operations capture and treat the 1:25-year storm runoff. The 25 year runoff volume is projected to be 220,000 gallons. The possibility of successive large storm events led to sizing the Composting Area Runoff Collection Tank for 325,000 gallon capacity.

When the runoff is re-used to water the compost it will be pumped through a bag filtration system and into a 5000 gallon polyplastic tank beside the Baker tank. A portable sprayer and 500 gallon trailer mounted tank will be used to spray the filtered runoff onto the compost piles to keep them moist.

3.0 Water Transmission

Well water will be transmitted from the storage tank to the TRRP distribution network via an 8" PVC, C900, Class 200 or equivalent HDPE transmission main. The size of the transmission and distribution mains has been verified for the projected fire flow using EPANET software. Due to the difference in elevation between the water tank and the TRRP site, pressure class 200 psi equivalent pipes will be required.

4.0 Water Distribution

The MRF and ADF water distribution network consists of a single 8" diameter main encircling the ADF and MRF facilities. Fire hydrants will be located opposite the exterior building faces. Fire hydrant leads will be 6" diameter. The building sprinkler systems will be fed with 6" leads. The domestic water systems will be fed from the 8" distribution main but will be protected by double check valve assemblies.

This analysis was performed based upon conceptual site design. The analysis should be re-visited when more detailed plans are available. Thank you for the opportunity to be of service to Mustang Renewable Power Ventures. If you have any questions, please contact the undersigned at 661-663-7732 or john@kularconsult.com

Sincerely,

John Kular, RCE 64920
President
John Kular Consulting

Table 1 -TRRP MRF Net Water Consumption				2017 Updated Estimate	
Water Supply	GPM	Operating Hrs/day	GPD	Acre-ft/year	
Well # 6	10.2	24	14688	16.52	Per 2016 Well pump test
Water Uses					
MRF washdown			100	0.11	
Domestic			1800	2.02	
Flare scrubber			54	0.06	
Biofilters			4069	4.58	
Subtotal Uses			6023	6.77	MRF Uses
Net water balance			8665	9.75	Available for other purposes
Waste water generated					
MRF washdown			0	0.00	Classified as leachate must divert to landfill dust control
Domestic			1800	2.02	
Flare scrubber			9	0.01	Condensate recovery
Biofilters			610	0.69	Estimated 15% condensate recovery
Subtotal wastewater			2419	2.72	Treatment and disposal

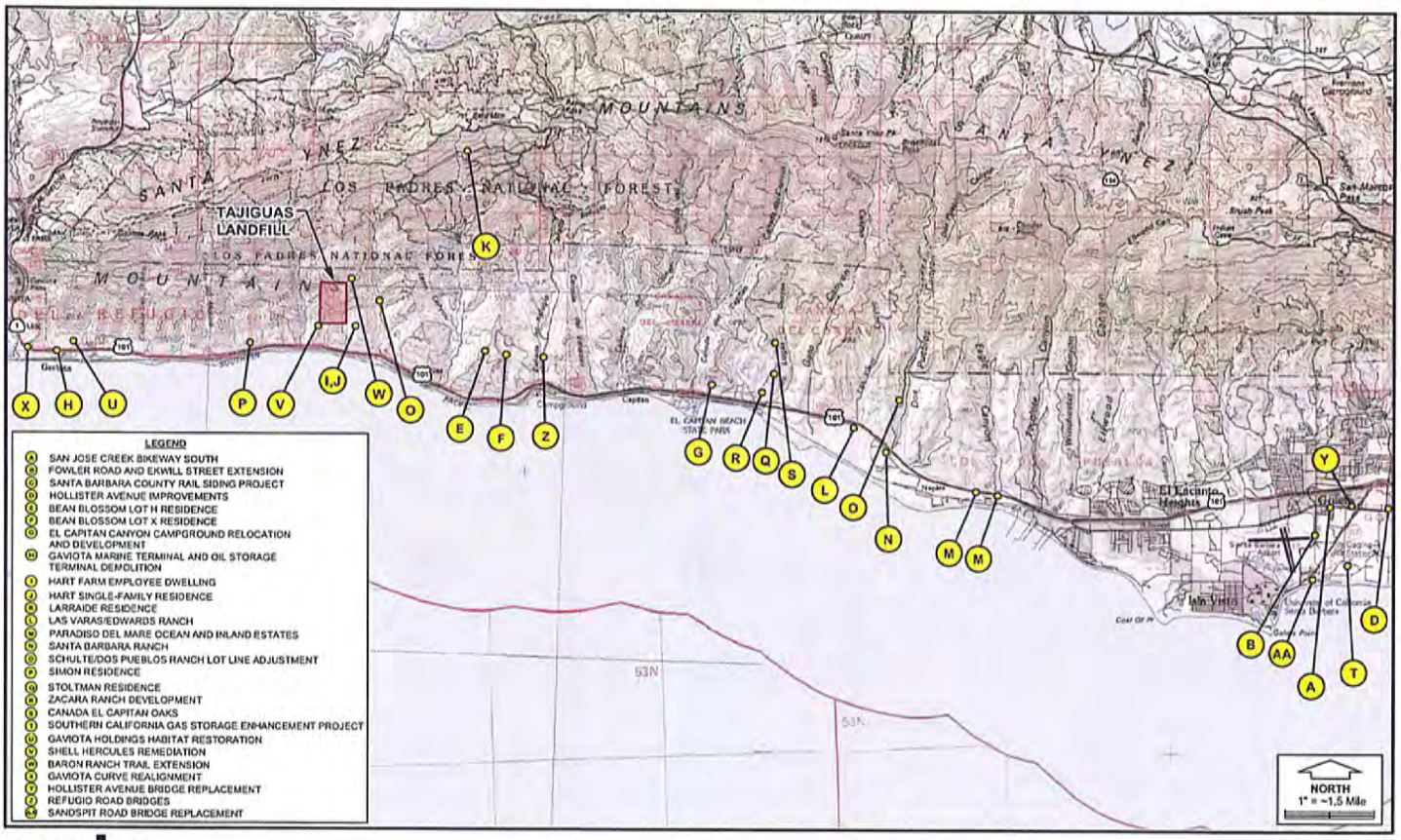
Table 2 -TRRP ADF Net Water Consumption				2017 Updated Estimate	
Water Supply	GPM	Operating Hrs/day	GPD	Acre-ft/year	
Well # 5	2.47	24	3557	4.00	Source of info: Geosysntec SEIR report
Water Uses					
ADF washdown			100	0.11	
Domestic			112	0.13	
Flare scrubber			54	0.06	
Biofilters			2895	3.26	
Subtotal Uses			3161	3.56	
Net water balance			396	0.45	Available for other uses
Waste water generated					
ADF washdown			0	0.00	Classified as leachate, divert to perc tanks
Domestic			112	0.13	
Flare scrubber			9	0.01	Condensate recovery
Biofilters			434	0.49	Estimated 15% condensate recovery
Subtotal wastewater			555	0.62	Available for CMU watering

Table 3 - TRRP CMU Water Consumption					
Sources:				Acre-ft/year	
ADF recycled water				0.62	
CMU collected rainwater runoff				3.77	
Wel l# 5 water				0.45	
subtotal				4.84	
Uses:					
Compost watering requirement				5.56	
Supplementary water required				0.72	Source from Well # 6
subtotal				4.84	

Table 4- Net TRRP Well Water Use (ADF, MRF and CMU)					
				Acre-ft/year	
ADF				3.56	
MRF				6.77	
CMU				1.17	
Total TRRP				11.50	

APPENDIX B

October 2015
Project No. 1202-0792

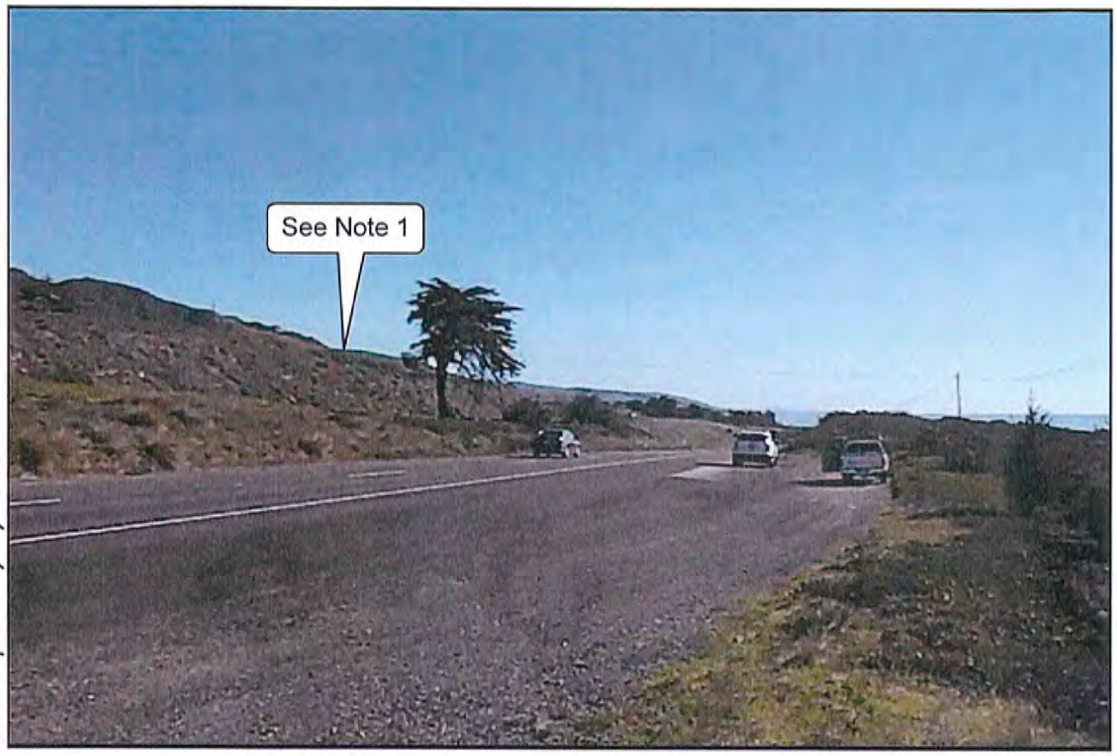


padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS
Tajiguas Resource Recovery Project

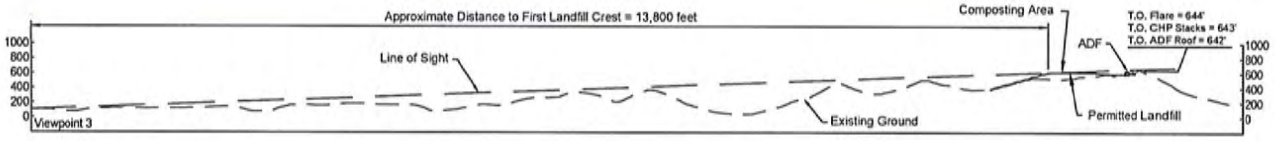
CUMULATIVE PROJECT LOCATION MAP
UPDATED FIGURE 3-13

Appendix E

Updated Line-of-Sight Profiles: Views 3, 4 and 5



Note 1 - Line of sight to existing operations deck and proposed TRRP buildings obscured by intervening topography and vegetation.



Line of Sight Profile

Horizontal and Vertical Scale

0' 2000' 4000'

Viewpoint 3

Hwy 101 Southbound

CERTIFIED EIR and AMENDED PROJECT CONDITIONS

Prepared by:

John Kular Consulting

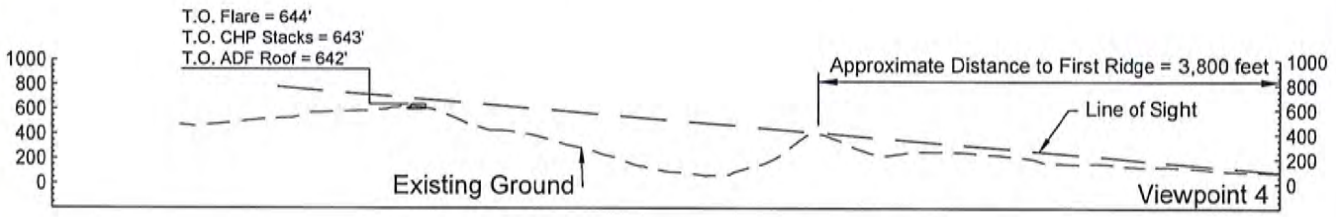
12107 Bedfordshire Drive, Bakersfield, CA 93311

661-302-1292 kularconsult.com

Tajiguas Resource Recovery Project

Figure 2.3a

Note 1 - Line of sight to existing operations deck and proposed TRRP buildings obscured by intervening topography and vegetation.



Line of Sight Profile

Horizontal and Vertical Scale

0' 1500' 3000'

Viewpoint 4

Hwy 101 Northbound

CERTIFIED EIR and AMENDED PROJECT CONDITIONS

Prepared by:

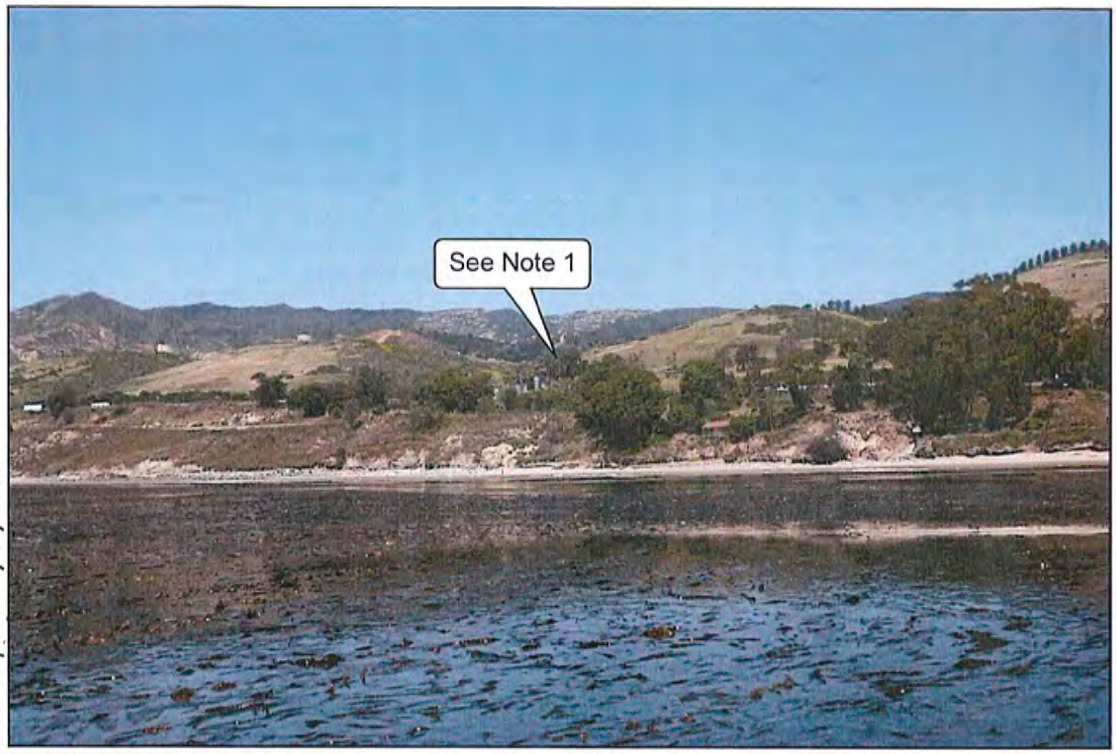
John Kular Consulting

12107 Bedfordshire Drive, Bakersfield, CA 93311

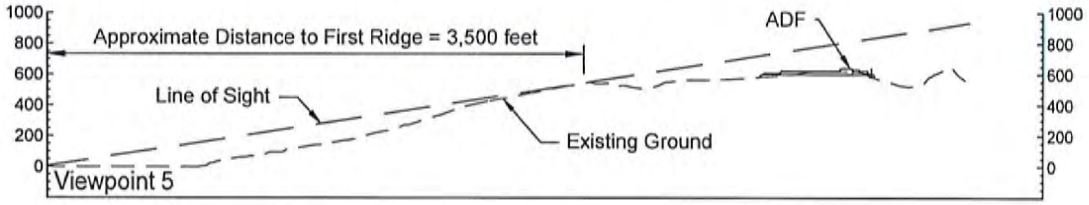
661-302-1292 kularconsult.com

Tajiguas Resource Recovery Project

Figure 2.4a



Note 1 - Line of sight to existing operations deck and proposed TRRP buildings obscured by intervening topography and vegetation.



Line of Sight Profile

HORIZONTAL & VERTICAL SCALE

0' 1200' 2400'

Viewpoint 5

Offshore

CERTIFIED EIR and AMENDED PROJECT CONDITIONS

Prepared by:

John Kular Consulting
12107 Bedfordshire Drive, Bakersfield, CA 93311
661-302-1292 kularconsult.com

Tajiguas Resource Recovery Project

Figure 2.5a

ATTACHMENT C PLANNING COMMISSION RESOLUTION

RESOLUTION OF THE SANTA BARBARA COUNTY PLANNING COMMISSION COUNTY OF SANTA BARBARA, STATE OF CALIFORNIA

IN THE MATTER OF RECOMMENDING TO THE BOARD OF SUPERVISORS THE ADOPTION OF AN AMENDMENT TO THE LAND USE ELEMENT OF THE SANTA BARBARA COUNTY COMPREHENSIVE PLAN AND THE LAND USE ELEMENT MAPS TO IMPLEMENT THE CHANGES TO THE LOCATION OF THE WASTE DISPOSAL FACILITY OVERLAY BY REMOVING 55.55 ACRES ON APN 081-150-026 AND ADDING 4.48 ACRES ON APN 081-150-032.	)	RESOLUTION NO.: 17-_____ CASE NO.: 17GPA-00000-00002

WITH REFERENCE TO THE FOLLOWING:

A. On December 22, 1980, by Resolution No. 80-566, the Board of Supervisors of the County of Santa Barbara adopted the Comprehensive Plan for the County of Santa Barbara.

B. On November 8, 2016, by Resolution No. 16-266, the Board of Supervisors of the County of Santa Barbara amended the Santa Barbara County Comprehensive Plan Land Use Element, and adopted the Gaviota Coast Plan.

C. The proposed amendment is consistent with the Santa Barbara County Comprehensive Plan, including the Gaviota Coast Plan and the requirements of California planning, zoning, and development laws.

D. Citizens, California Native American Indian tribes, public agencies, public utility companies, and civic, education, and other community groups have been provided the opportunity for involvement in compliance with Government Code Section 65351.

E. The County contacted and offered to conduct consultations with California Native American tribes in compliance with Government Code Sections 65352.3 and 65352.4.

F. This County Planning Commission has held a duly noticed hearing in compliance with Government Code Section 65353 on the proposed amendment to the Comprehensive Plan, at which hearing the amendment was explained and comments invited from persons in attendance.

G. The County Planning Commission has determined that the proposed amendments and ordinances are consistent with the Comprehensive Plan, including the Gaviota Coast Plan, and provide the greatest community welfare without compromising community values, environmental quality, or the public health and safety, as included in the findings in Attachment A of the County Planning Commission staff report dated August 14, 2017, which is incorporated by reference.

NOW, THEREFORE IT IS HEREBY RESOLVED as follows:

1. The above recitations are true and correct.

2. The County Planning Commission now finds that it is in the interest of the orderly development of the County and important to the preservation of the health, safety and general welfare of the

residents of the County to recommend that the Board of Supervisors adopt a Resolution amending the Comprehensive Plan (Case No, 17GPA-00000-00002) to revise the location of the Waste Disposal Facility Overlay as shown on the exhibit attached to said Resolution.

3. In compliance with the provisions of Sections 65354 of the Government Code, this County Planning Commission recommends that the Board of Supervisors of the County of Santa Barbara, State of California, following the required noticed public hearing, approve and adopt the Comprehensive Plan Amendment, based on the findings included as Attachment A of the County Planning Commission staff report dated August 14, 2017.

4. This County Planning Commission endorses and transmits a certified copy of this Resolution to the Board of Supervisors in compliance with Government Code Section 65354.

5. The Chair of this Planning Commission is hereby authorized and directed to sign and certify all maps, documents, and other materials in accordance with this Resolution to show the above mentioned action by the County Planning Commission.

PASSED, APPROVED AND ADOPTED this 30th day of August, 2017 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

_____
C. MICHAEL COONEY, Chair
Santa Barbara County Planning Commission

ATTEST:

_____
DIANNE BLACK
Secretary to the County Planning Commission

APPROVED AS TO FORM:

MICHAEL C. GHIZZONI
COUNTY COUNSEL

By: _____
Deputy County Counsel

EXHIBIT:

1. Board of Supervisors Resolution Amending the Comprehensive Plan (Case No. 17GPA-00000-00002)

EXHIBIT 1

RESOLUTION OF THE BOARD OF SUPERVISORS
COUNTY OF SANTA BARBARA, STATE OF CALIFORNIA

IN THE MATTER OF ADOPTING AN AMENDMENT TO THE LAND USE ELEMENT OF THE SANTA BARBARA COUNTY COMPREHENSIVE PLAN BY AMENDING THE LAND USE OVERLAY DESIGNATIONS – EAST MAP OF THE GAVIOTA COAST PLAN TO IMPLEMENT CHANGES TO THE LOCATION OF THE WASTE DISPOSAL FACILITY OVERLAY.	)	RESOLUTION NO. 17-_____ Case No.: 17GPA-00000-00002

WITH REFERENCE TO THE FOLLOWING:

A. On December 22, 1980, by Resolution No. 80-566, the Board of Supervisors of the County of Santa Barbara adopted the Comprehensive Plan for the County of Santa Barbara.

B. On November 8, 2016, the Board of Supervisors adopted Resolution No. 16-266 adding the Gaviota Coast Plan Area to the Comprehensive Plan Land Use Element with adoption of the Gaviota Coast Plan.

C. The Board of Supervisors received and considered the County Planning Commission's recommended actions and held a duly noticed public hearing, as required by Section 65355 of the Government Code on the proposed amendment to a General Plan, at which hearing the proposed amendment was explained and comments invited from persons in attendance.

D. Citizens, California Native American Indian tribes, public agencies, public utility companies, and civic, education, and other community groups have been provided the opportunity for involvement in compliance with Government Code Section 65351.

E. The County contacted and offered to conduct consultations with California Native American tribes in compliance with Government Code Sections 65352.3 and 65352.4.

F. The County Planning Commission of the County of Santa Barbara held a duly noticed public hearing, as required by Government Code Section 65353, on the proposed amendment, at which hearing the amendment was explained and comments invited from the persons in attendance.

G. The County Planning Commission, after holding a duly noticed public hearing on the above described amendment to the Comprehensive Plan, endorses and transmits to the

Board of Supervisors said recommended amendment by resolution in compliance with Government Code Section 65354.

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

1. The above recitations are true and correct.

2. The Board of Supervisors now finds, consistent with its authority in Government Code Section 65358, that it is in the public interest to provide for the orderly development of the County and important to the preservation of the health, safety, and general welfare of the residents of the County to adopt this amendment to the Land Use Overlay Designations - East Map of the Gaviota Coast Plan, identified as Exhibit A to this Resolution and incorporated herein by reference.

3. In compliance with the provisions of Government Code Section 65356, the above change is hereby adopted as an amendment to the Land Use Element of the County Comprehensive Plan.

4. Pursuant to the provisions of Government Code Section 65357, the Clerk of the Board is hereby directed to make the documents amending the Santa Barbara County Comprehensive Plan, including the diagrams and text, available to the public for inspection.

5. The Chair and the Clerk of this Board are hereby authorized and directed to sign and certify all maps, documents, and other materials in accordance with this Resolution to reflect the above described action by the Board.

6. Pursuant to the provisions of Government Code Section 65357 the Clerk of the Board is hereby authorized and directed to send endorsed copies of said maps to the planning agency of each city within this County.

PASSED, APPROVED, AND ADOPTED by the Board of Supervisors of the County of Santa Barbara, State of California, this _____ day of _____, 2017 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
JOAN HARTMANN, CHAIR
BOARD OF SUPERVISORS
COUNTY OF SANTA BARBARA

ATTEST:

MONA MIYASATO, COUNTY EXECUTIVE OFFICER
CLERK OF THE BOARD

By: _____
Deputy Clerk

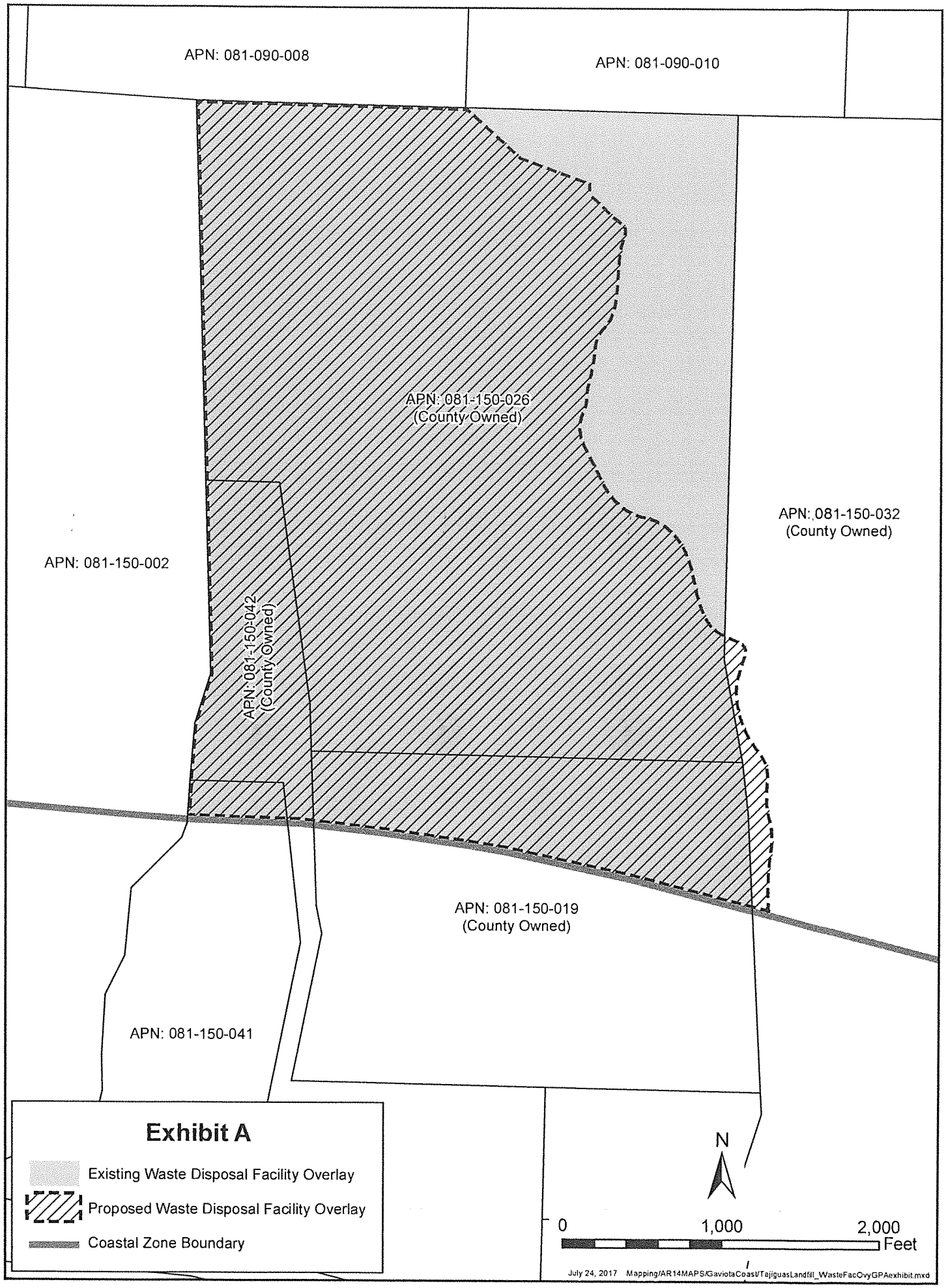
APPROVED AS TO FORM:

MICHAEL C. GHIZZONI
COUNTY COUNSEL

By: _____
Deputy County Counsel

EXHIBIT:

A. East Map of the Gaviota Coast Plan – Proposed Waste Disposal Facility Overlay (Case No. 17GPA-00000-00002)


APN: 081-090-008
APN: 081-090-010
APN: 081-150-026
(County Owned)
APN: 081-150-032
(County Owned)
APN: 081-150-002
APN: 081-150-042
(County Owned)
APN: 081-150-019
(County Owned)
APN: 081-150-041
Exhibit A
Existing Waste Disposal Facility Overlay
Proposed Waste Disposal Facility Overlay
Coastal Zone Boundary
N
0
1,000
2,000
Feet
July 24, 2017 Mapping/AR14MAPS/GaviotaCoast/TajiguasLandfill_WasteFacOvyGPAexhibit.mxd

ATTACHMENT D

TAJIGUAS LANDFILL MAP AND PROJECT PLANS

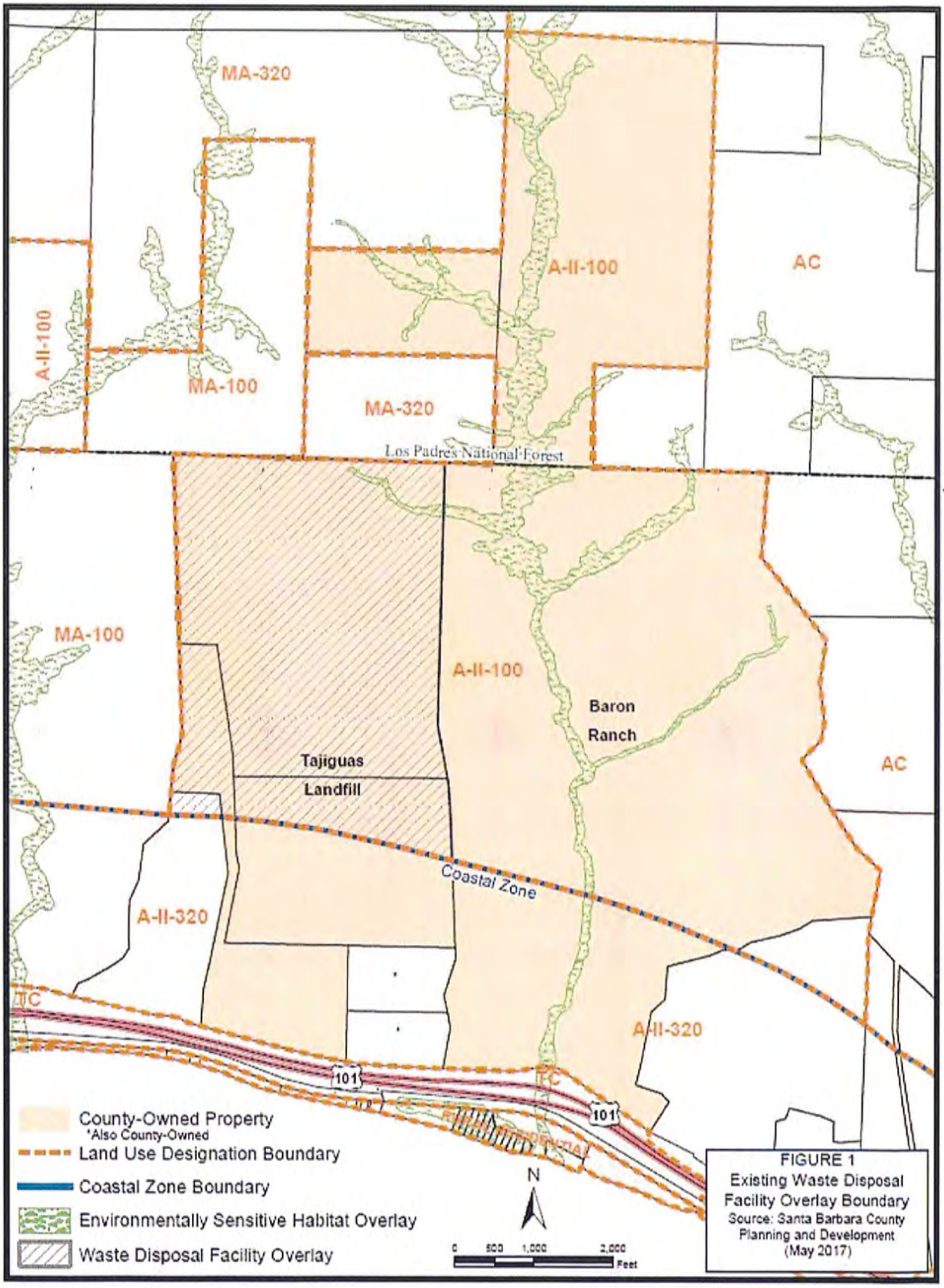
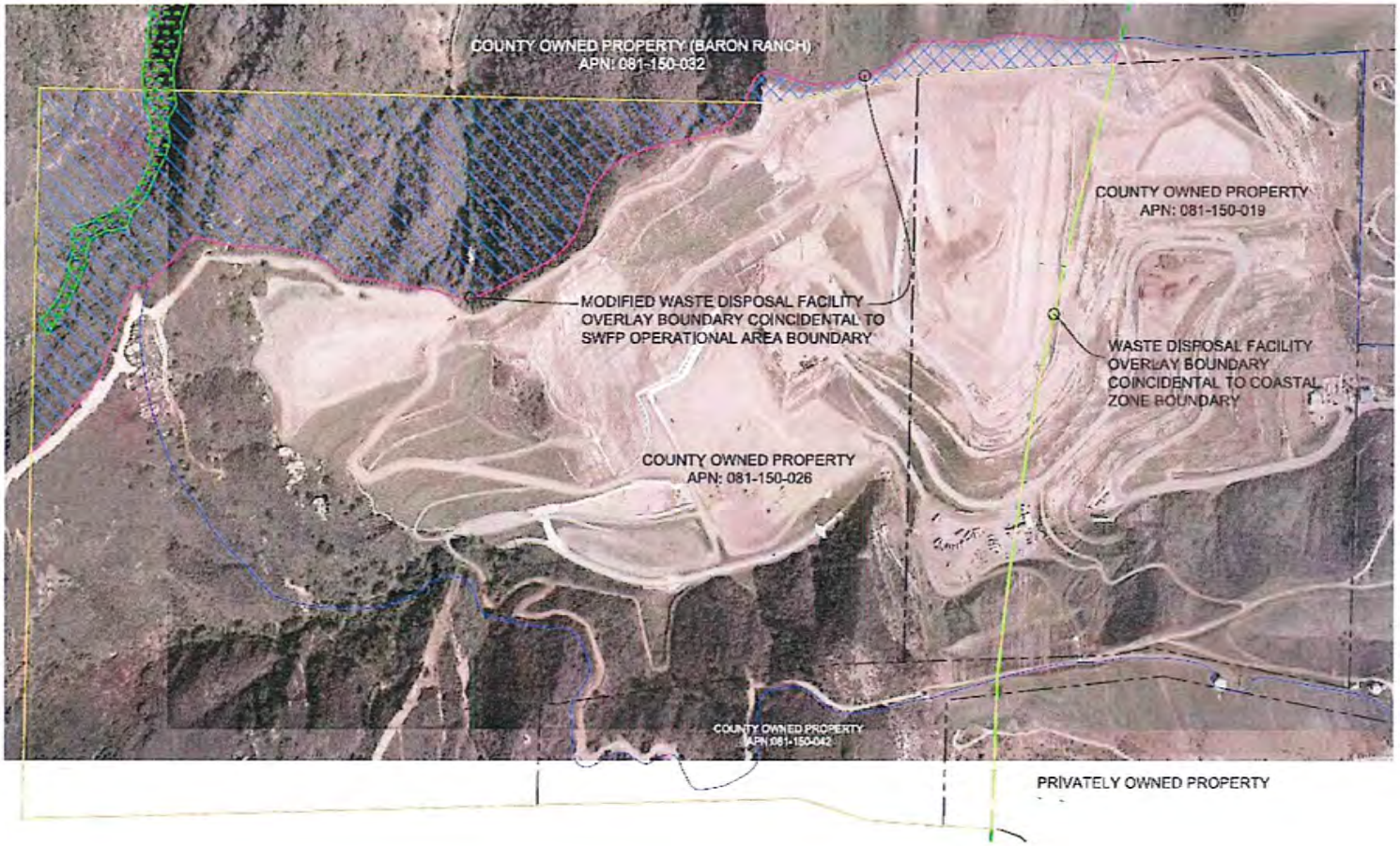


FIGURE 1
Existing Waste Disposal Facility Overlay Boundary
Source: Santa Barbara County Planning and Development (May 2017)



WASTE DISPOSAL FACILITY OVERLAY AREA MEASUREMENTS	
ITEM	AREA (AC)
EXISTING WASTE DISPOSAL FACILITY OVERLAY	362.75
REMOVED AREA (APN 081-150-026)	-55.55
ADDED AREA (APN 081-150-032)	4.48
NET PROPOSED WASTE DISPOSAL FACILITY AREA REDUCTION	-51.07

NOTES:

1. AERIAL IMAGERY PROVIDED BY CENTRAL COAST AERIAL AND MAPPING, DATES: MARCH 2, 2016; c. 2007
2. PROVIDED BY PLANNING AND DEVELOPMENT (05/15/2017)
3. PROVIDED BY PLANNING AND DEVELOPMENT (05/15/17)

VICINITY MAP
NTS

LEGEND

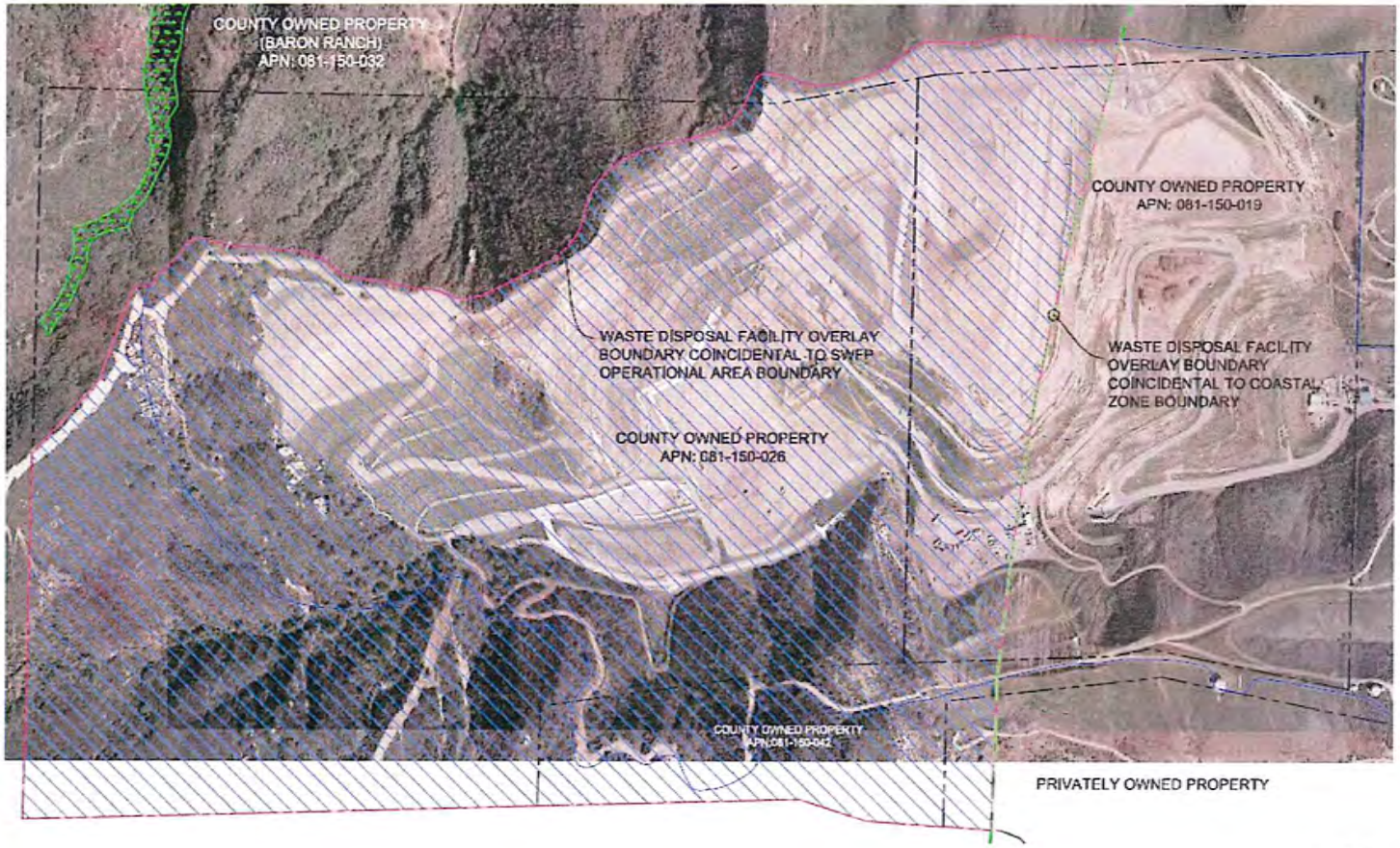
- ENVIRONMENTALLY SENSITIVE HABITAT OVERLAY [2]
- WASTE DISPOSAL FACILITY OVERLAY AREA TO BE REMOVED
- WASTE DISPOSAL FACILITY OVERLAY AREA TO BE ADDED
- PROPERTY LINE
- COASTAL ZONE BOUNDARY [3]
- EXISTING WASTE DISPOSAL FACILITY OVERLAY BOUNDARY [2]
- PROPOSED WASTE DISPOSAL FACILITY OVERLAY BOUNDARY MODIFICATION
- SOLID WASTE FACILITIES PERMIT (SWFP) OPERATIONAL AREA BOUNDARY

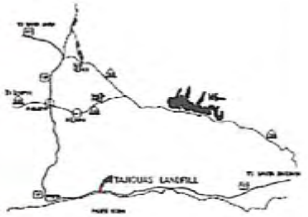
0 250 500 1000 Feet
1:6000

COUNTY OF SANTA BARBARA
DEPARTMENT OF PUBLIC WORKS
RESOURCE RECOVERY & WASTE MANAGEMENT DIVISION

PROPOSED WASTE DISPOSAL FACILITY OVERLAY BOUNDARY CHANGES

DRAWN BY: TC | DATE: 05/18/2017 | FIGURE: 2





VICINITY MAP
NTS

LEGEND

- ENVIRONMENTALLY SENSITIVE HABITAT OVERLAY [2]
- PROPOSED WASTE DISPOSAL FACILITY OVERLAY
- PROPERTY LINE
- COASTAL ZONE BOUNDARY [3]
- WASTE DISPOSAL FACILITY OVERLAY BOUNDARY
- SOLID WASTE FACILITIES PERMIT (SWFP) OPERATIONAL AREA BOUNDARY

0 250 500 1000 Feet
1:9000

NOTES

1. AERIAL IMAGERY PROVIDED BY CENTRAL COAST AERIAL AND MAPPING, DATES: MARCH 2, 2015 & c. 2007
2. PROVIDED BY PLANNING AND DEVELOPMENT (05/15/2017)
3. PROVIDED BY PLANNING AND DEVELOPMENT (05/15/17)

COUNTY OF SANTA BARBARA
DEPARTMENT OF PUBLIC WORKS
RESOURCE RECOVERY & WASTE MANAGEMENT DIVISION

REVISED WASTE DISPOSAL FACILITY OVERLAY BOUNDARY

DRAWN BY: TC	DATE: 05/18/2017	FIGURE: 3

Memorandum

Date: August 11, 2017

To: Tess Harris, Planner
Planning and Development

From: Mark Schleich, Deputy Director FOR
Public Works, Resource Recovery and
Waste Management

Subject: Request for Determination of Conformity with the County of Santa Barbara County General Plan for the Revised Tajiguas Resource Recovery Project, 14470 Calle Real Santa Barbara, CA 93117 Pursuant to Government Code Section 65402

In accordance with Government Code Section 65402, the Public Works Department, Resource Recovery and Waste Management Division (RRWMD) requests a determination as to the conformity of the Revised Tajiguas Resource Recovery Project with the County of Santa Barbara's General Plan. The project was previously reviewed by the Planning Commission on January 6, 2016 and found to be in conformity with the General Plan. A Final Subsequent EIR was certified and the project was approved on July 12, 2016. Since the January 6, 2016 65402 review, revisions to the project have occurred and are described in the CEQA Addendum dated August 11, 2017 (Attachment 1) included with the 65402 application.

Location: The proposed project is located at the Tajiguas Landfill within the Landfill's Solid Waste Facility Permit operational area on APNs 081-150-026,-019, -042 and -032. The Tajiguas Landfill is located approximately 26 miles west of the City of Santa Barbara. The street address is 14470 Calle Real, Santa Barbara, CA 93117.

Project Summary: The County of Santa Barbara proposes to modify the operation of the Tajiguas Landfill Project to add a Resource Recovery Project that would process MSW from the communities currently served by the Tajiguas Landfill. The Resource Recovery Project would be designed and constructed to process the MSW that is currently being delivered to the Tajiguas Landfill for burial from unincorporated areas of the south coast of Santa Barbara, Santa Ynez and New Cuyama Valleys and, the cities of Santa Barbara, Goleta, Buellton and Solvang. The County of Santa Barbara, the cities of Santa Barbara, Goleta, Buellton and Solvang are collectively the "Public Participants". The facility would also be designed to process source separated organic (food and green) waste (SSOW) from the region's existing and future recycling programs.

The Resource Recovery Project would modify current waste management operations at the Tajiguas Landfill by the addition of a Materials Recovery Facility (MRF) and Dry Fermentation Anaerobic Digestion (AD) Facility. The MRF would sort MSW into three streams:

1. Recyclables (i.e., glass, metal, paper, plastic, wood) - recovered and processed for sale;
2. Organics – recovered for processing in the AD Facility; and
3. Residue – materials left over after all recyclables and organics are recovered that would be disposed of at the existing landfill.

The AD Facility would convert all organics recovered from the MSW and SSOW into:

1. Bio-gas (primarily composed of methane and CO2) – that would be used to power two (2) 1,573 horsepower onsite combined heat and power (CHP) engines driving electric power generators that would generate approximately 1+ net megawatts (MW) of renewable power.
2. Digestate - that can then be cured into compost and/or soil amendments. The curing would be within a composting area located on the landfill's permitted waste disposal footprint. The compost and/or soil amendments would be marketed for agricultural or landscape use or used for reclamation projects.

Proposed revisions to the project since the January 6, 2016 65402 conformity review and the July 12, 2016 approval are discussed in Attachment 1. An electronic copy of the certified Final Subsequent EIR (12EIR-00000-00002) has also been provided.

Request: In accordance with Government Code Section 65402, RRWMD hereby requests that a finding be made by the Planning Commission as to whether the Revised Tajiguas Resource Recovery Project is in conformity with the County's applicable Comprehensive General Plan. Please forward the above mentioned findings to the County of Santa Barbara, Public Works Department, RRWMD 130 E. Victoria Street, Suite 100, Santa Barbara, CA 93101, Attention: Joddi Leipner for further processing.

If you have any questions, please contact Joddi Leipner at 805-882-3614.

PLANNING & DEVELOPMENT
PERMIT APPLICATION

SITE ADDRESS: 14470 Calle Real, Goleta 93117

ASSESSOR PARCEL NUMBER: 081-150-026, -019, -042 and -032

PARCEL SIZE (acres/sq.ft.): Gross 497 (landfill parcels) Net _____

ZONING: AG-II-100 (inland), AG-II-320 (coastal)

COMPREHENSIVE/COASTAL PLAN DESIGNATION: A-II-100 (inland) and Waste Disposal Facility Overlay, A-II-320 (coastal)

Are there previous permits/applications? ☐no ☐yes numbers: Existing Tajiguas Landfill, exempt from zoning per LUDC Section 35.10.040.G.1.b.)
(include permit# & lot # if tract)

Did you have a pre-application? ☒no ☐yes if yes, who was the planner? _____

Are there previous environmental (CEQA) documents? ☐no ☒yes numbers: 01-EIR-05, 08EIR-00000-00007, 12EIR-00000-~~00002 and addenda~~

Project description summary: Construct and operate a Materials Recovery Facility (MRF)and Anaerobic Digestion (AD)Facility at the Tajiguas Landfill to further recover recyclable materials, reduce GHGs and create green energy from MSW being disposed of in the Landfill.
(Project revised since 65402 review on January 6, 2016 and Project Approval on July 12, 2016).(see Attachment 1)

1. **Financially Responsible Person** Mark Schleich, Deputy Director Phone: 805-882-3600 FAX: 805-882-3601
(For this project)
Mailing Address: 130 E. Victoria Street, Suite 100, SB CA 93101
Street City State Zip

2. **Owner:** SB County Public Works, RRWMD Phone: 805-882-3600 FAX: 805-882-3601
Mailing Address: 130 E. Victoria Street, Suite 100, SB CA 93101 E-mail: _____
Street City State Zip

3. **Agent:** Joddi Leipner, Senior Engineering Env. Planner Phone: 805-882-3614 FAX: 805-882-3601
Mailing Address: Same as above E-mail: JLeipner@COSBPW.net
Street City State Zip

4. **Arch./Designer:** John Dewey,MSB (project Vendor) Phone: (805) 259-9499 FAX: (805) 543-4220
Mailing Address: 750 Pismo Street, San Luis Obispo, CA 93401 State/Reg Lic# _____
Street City State Zip

5. **Engineer/Surveyor:** John Kular Consulting Phone: 661-663-7732 FAX: _____
Mailing Address: 12107 Bedfordshire Drive, Bakersfield, CA 93311 State/Reg Lic# _____
Street City State Zip

6. **Contractor:** Diani Building Corp Phone: 805-925-9533 FAX: 805-928-2150
Mailing Address: 351 N. Blosser Road P.O. Box 5757 Santa Maria, CA 93456-5757 State/Reg Lic# _____
Street City State Zip

I hereby certify to the best of my knowledge, the information contained in this application and all attached materials are correct, true and complete.

Mak Schleich — Signature

MARK SCHLEICH / 8-9-17 — Print name/date

****

COUNTY USE ONI 17GOV-00000-00004

Case Number: _____ *Companion* Tajiguas Landfill Comprehensive Pla
Supervisorial District: _____ *Submittal I* 14550 HWY 101 7/6/17
Applicable Zoning Ordinance: _____ *Receipt Nu*
Project Planner: _____ *Accepted fo* GOLETA
Zoning Designation: _____ *Comp.Plan* 081-150-026

\\Padfs01.co.sbcgov.net\Pad$\GROUP\P&D\Digital Library\Applications & Forms\Planning Applications and Forms\Govt CodeSubReqAPP.doc

updated byFTC 072513

ATTACHMENT F

Final Subsequent EIR 12EIR-00000-00002 and EIR Revision Letter and Errata

Attachments A and F of the July 12, 2016 Tajiguas Resource Recovery Project Board Letter:
https://santabarbara.legistar.com/LegislationDetail.aspx?ID=2761428&GUID=B9346B75-FC2B-4060-AE06-9C34D0741A17)

SANTA BARBARA COUNTY PLANNING COMMISSION
Staff Report for Tajiguas Resource Recovery Project
Government Code 65402(a) Conformity Determination

Hearing Date: January 6, 2016
Staff Report Date: December 7, 2015
Case No.: 15GOV-00000-00005

Deputy Director: Alice McCurdy
Division: Development Review
Supervising Planner: Anne Almy
Supervising Planner Phone: 568-2053
Staff Contact: Anne Almy
Planner's Phone #: 568-2053

OWNER:
Santa Barbara County Public Works
Resource Recovery and Waste Management Division
130 E. Victoria Street
Santa Barbara, CA 93101

AGENT

Joddi Leipner
Senior Engineering Environmental Planner
Santa Barbara County Public Works
Resource Recover and Waste Management Division
130 E. Victoria Street
Santa Barbara, CA 93101

VICINITY MAP

This site is identified as the Tajiguas Landfill, Assessor Parcel Numbers 081-150-026, -019 and -042, located approximately 26 miles west of the City of Santa Barbara, 14470 Calle Real, Gaviota Coast area, Third Supervisorial District.

Application submitted: November 30, 2015
Processing Deadline: 40 days from application submittal

1.0 REQUEST

Hearing on the request of Joddi Leipner, on behalf of the Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division (RRWMD) to consider Case No. 15GOV-00000-00005 [application filed on November 30, 2015], to determine that the Tajiguas Resource Recovery Project is in conformance with the Comprehensive Plan in compliance with

Government Code Section 65402 (a). The application involves AP Nos. 081-150-026, -019 and -042, located at 14470 Calle Real, in the Gaviota area, 3rd Supervisorial District.

2.0 RECOMMENDATION AND PROCEDURES

Based upon the discussion in Section 5.0 of this report, staff recommends that the Planning Commission take the following actions:

1. Determine that the proposed Tajiguas Resource Recovery Project is in conformity with the Comprehensive Plan, including the Coastal Land Use Plan; and

2. Transmit the conformity report required by Government Code Section 65402(a) to Joddi Leipner, RRWMD and the Board of Supervisors. This staff report and the letter reflecting the Planning Commission's action shall constitute the required report.

3.0 JURISDICTION

California Government Code Section 65402(a) requires that before the County constructs upon real property to which the County's general plan applies, the location, purpose, and extent of such construction must be submitted to and reported on by the County's "planning agency" as to conformity with the County's general plan. Under the Santa Barbara Land Use and Development Code Section 35.100.020(A)(1), pursuant to the provisions of Section 65100 of the California Government Code, and as provided by Article V, Chapter 2 of the County Code, the County Planning Commission is designated as the "planning agency" for the unincorporated portion of the County located outside of the Montecito Community Plan Area.

4.0 PROJECT INFORMATION

4.1 Site Information

Site Information	
Comprehensive Plan Designation	*Inland*: A-II-100 and Waste Disposal Facility Overlay *Coastal*: A-II-320
Ordinance, Zone	*Inland*: Unlimited Agriculture (Inland Tajiguas Landfill property is exempt from zoning pursuant to LUDC Section 35.10.040.G.1.b.) *Coastal*: AG-II-320
Site Size	497 acres
Present Use & Development	Landfill
Surrounding Uses/Zone(s)	*North:* Pasture/grazing/U (Unlimited Agriculture) *South:* Highway 101/TC (Transportation Corridor) *East:* Irrigated orchards/100-AG-O

Site Information	
	West: Pasture/Grazing/AG-II-100
Access	Hwy 101
Public Services	Water Supply: Well, drilled in Sespe-Alegria formation Sewage: On site packaged sewage treatment system Fire: County Fire and onsite fire water storage tank (220,000 gallons) Police Services: County Sheriff

4.2 Setting

The Resource Recovery Project is proposed to be located at the Tajiguas Landfill. The Tajiguas Landfill is located in a coastal canyon known as Cañada de la Pila, approximately 26 miles west of the City of Santa Barbara. The Tajiguas Landfill is approximately 1,600 feet north of U.S. Highway 101. U.S. Highway 101, the Union Pacific Railroad tracks, and the Pacific Ocean are located south of the landfill. Properties that are adjacent to the landfill site are used primarily for agriculture or open space. The residential community of Arroyo Quemada is located on the coast, approximately 2,000 feet southeast of the Tajiguas Landfill property. The landfill property encompasses approximately 497 acres on Assessor Parcel Numbers (APN) 081-150-019, -026 and -042. The Resource Recovery Project facilities would be located on approximately 6 acres on APN 081-150-019. The project facilities would be located in the inland area of the landfill in the area of the existing developed operations deck, an engineered fill pad which currently houses the landfill administration facilities, and the west slope borrow area, which is a previously graded slope where landfill cover soil was obtained. During construction, landfill administration facilities would be temporarily relocated to an inland area of the landfill northeast of the landfill top deck or to the landfill 370' deck within the coastal zone (see Attachment A). The composting area would occupy approximately 5 acres on APN 081-150-019 and APN 051-150-026, while water storage facilities would be located on APN 081-150-042 (all inland).

4.3 Project Description

The County of Santa Barbara proposes to modify the operation of the Tajiguas Landfill Project to add a Resource Recovery Project that would process municipal solid waste from the communities currently served by the Tajiguas Landfill. The proposed Tajiguas Resource Recovery Project is being implemented in response to, and is supported by, a number of state solid waste reduction and greenhouse gas reduction initiatives and laws. The Resource Recovery Project would be designed and constructed to process the municipal solid waste that is currently being delivered to the Tajiguas Landfill for burial from unincorporated areas of the south coast of Santa Barbara, from the Santa Ynez and New Cuyama Valleys, and from the cities of Santa Barbara, Goleta, Buellton and Solvang. The County of Santa Barbara and the cities of Santa Barbara, Goleta, Buellton and Solvang are collectively the "Public Participants". The facility would also be designed to process source separated organic (food and green) waste from the region's existing and future recycling programs. Source separated solid waste is currently

collected as green waste only and is processed into mulch at the Tajiguas Landfill. Future programs may include food waste collected separately or included with green waste. Any program that would increase the amount of source separated solid waste would decrease the amount of organics in the municipal solid waste, and in turn, reduce the amount of municipal solid waste processed by the Resource Recovery Project by the same amount.

The Resource Recovery Project would modify current waste management operations at the Tajiguas Landfill by the addition of a Materials Recovery Facility and Dry Fermentation Anaerobic Digestion Facility. The Materials Recovery Facility processing area building footprint would occupy an area approximately 56,500 square foot (sf) (66,500 sf if commingled source separated recyclables processing [optional element] is included as described below) that would sort municipal solid waste into three streams:

1. Recyclables (i.e., glass, metal, paper, plastic, wood) - recovered and processed for sale;
2. Organics – recovered for processing in the Anaerobic Digestion Facility; and
3. Residue – materials left over after all recyclables and organics are recovered that would be disposed of at the existing landfill.

At the southeastern corner of the Materials Recovery Facility there would be: Office/administration/employee/control room areas (6,400 sf) and a visitor/education/viewing area (1,500 sf).

The Anaerobic Digestion Facility would be housed within an approximate 63,600 sf building, along with an associated Energy Facility and percolate storage tanks that would convert all organics recovered from the municipal solid waste and source separated solid waste into:

1. Bio-gas (primarily composed of methane and CO2) – that would be used to power two (2) 1,537 horsepower onsite combined heat and power (CHP) engines driving electric power generators that would generate approximately 1+ net megawatts (MW) of renewable power. The Energy Facility would be located on the south side of the Anaerobic Digestion Facility; and
2. Digestate - that can then be cured into compost and/or soil amendments. The curing would require an approximately 5 acre area (located on the landfill's permitted waste disposal footprint). The compost and/or soil amendments would be marketed for agricultural or landscape use or used for reclamation projects.

Construction of the Materials Recovery Facility/Anaerobic Digestion Facility site would require approximately 142,600 cubic yards of cut and 89,400 (102,765 with 15% compaction) cubic yards of fill. The Materials Recovery Facility would have a design capacity of up to 800 tons/day of municipal solid waste or up to approximately 250,000 tons/per year (up to 311 operating days per year). Up to 90,000 tons/year (290 tons/day) of recyclable material would be recovered and sold for reuse. The Anaerobic Digestion Facility would have a design capacity of up to 73,600 tons/year, made up of organics recovered from the Materials Recovery Facility and/or brought to the project site as source separated solid waste. Up to 100,000 tons/year (320 tons/day) of residue from the Materials Recovery Facility and residue from the Anaerobic Digestion Facility which is not suitable for composting would be landfilled. Residue ineligible

for disposal in the landfill (i.e., hazardous waste or ewaste), would be transported to an appropriate recycling or disposal facility.

As an optional element, the project could also process up to 130 tons/day commingled source separated recyclables or 40,000 tons/year. With the inclusion of this optional element, the total processing capacity of the Materials Recovery Facility would be approximately 290,000 tons/year (250,000 tons/year municipal solid waste + 40,000 tons/year commingled source separated recyclables). Processing of commingled source separated recyclables would increase the production of marketable recyclables by up to 36,000 tons/year (126,000 tons/year overall), producing up to an additional 4,000 tons/year (13 tons/day) of residue which would be disposed of in the landfill.

Based on current waste disposal rates the Tajiguas Landfill may reach its permitted disposal capacity (23.3 million cubic yards) in approximately year 2026. With the additional diversion provided by the proposed Tajiguas Landfill Project modification (operation of the Resource Recovery Project), the permitted disposal capacity (which would not be modified as a part of the project) would not be expected to be reached until approximately year 2036, extending the landfill life by approximately 10 years. The Resource Recovery Project facilities would be located approximately 3,200 feet north of U.S. Highway 101 on the existing Tajiguas Landfill Operations Deck and west borrow area, an approximately 6-acre site that currently houses the landfill administrative office, two crew trailers, engineering trailer, hazardous material storage, electronic-waste storage, equipment storage and parking, employee parking, maintenance facility and three fuel storage tanks.

The Coastal Zone boundary runs through the southern portion of the landfill property. The facilities (Materials Recovery Facility, Anaerobic Digestion Facility and composting area) associated with the Resource Recovery Project would be located outside of the Coastal Zone. However, a maximum of three of the landfill operations trailers and other related facilities may be temporarily re-located to an existing disturbed area northeast of the top deck in the inland area of the landfill property and/or on an existing deck south of the green waste processing area within the Coastal Zone during construction of the project. (Pursuant to Article II, Section 35-132.2.2.a, up to three trailers converted for use as construction offices, tool storage or other similar uses not including human habitation may remain on a building site during construction without the requirement of a coastal development permit.) The composting area is proposed to be located on the top deck of the landfill. The top deck is currently still receiving waste to its currently permitted elevation and would be closed and a final landfill cover system installed prior to using it for the project composting area. A maintenance building associated with landfill operations, that was to be relocated to the Operations Deck as a part of the phased landfill closure, and the existing landfill fuel tanks, would be relocated north of the proposed composting area. To protect the integrity of the landfill and protect water quality, closure, post-closure use and post-closure maintenance of the top deck area would be subject to review and approval by CalRecycle, the Local Enforcement Agency and the Regional Water Quality Control Board.

The vendor selected by the Public Participants through the 2009 RFP process to establish a solid waste management facility to process waste currently buried at the Tajiguas Landfill (Resource

Recovery Project) is Mustang Renewable Power Ventures, LLC (Mustang) and Mustang's proposed technology service providers and construction contractor (Bekon, Van Dyk, Diana Building Corporation). Ultimate selection of the project vendor and approval of a final waste service agreement is subject to the approval of all of the participating jurisdictions. It is anticipated that the administrative and contractual agreements to operate the project may be administered through a legal arrangement such as a Joint Powers Authority (JPA) or directly with the County who would have a single waste services agreement with the vendor. The individual participating jurisdictions would have separate waste supply agreements with either the JPA or the County. If a single jurisdiction chooses not to participate in the JPA, or contract with the County, that jurisdiction would have a waste service agreement directly with the vendor. The County/RRWMD would continue to operate the Tajiguas Landfill. Landfill operations and engineering offices would be integrated into the new Resource Recovery Project structures, but landfill staffing would be reduced in response to the reduced amount of waste requiring burial.

4.4 Background Information

The Tajiguas Landfill has been used as a County municipal solid waste disposal facility since 1967 and has a Waste Disposal Overlay in the Land Use Element recognizing its use as a landfill. The Tajiguas Landfill is also identified as a waste disposal site in the County's Integrated Waste Management Plan, County-wide Siting Element prepared pursuant to Title 14 of the California Code of Regulations. The inland areas of the Tajiguas Landfill are located within areas zoned for agriculture under County Ordinance 661. The southern portion of the landfill is located within the coastal zone within areas zoned AG-II-320, which permits agricultural uses within a 320-acre minimum lot size. The portion of the landfill within the Coastal Zone pre-dates the Coastal Zone Management Act of 1972, the Coastal Act of 1976, the Coastal Zoning Ordinance, and the California Environmental Quality Act and is considered a legal, non-conforming use. Facilities associated with the Resource Recovery Project would be located within the inland area of the landfill property; however, temporary administrative facilities (office trailers) may be located northeast of the landfill top deck, which is outside of the Coastal Zone, or on an existing landfill deck southeast of the green waste processing area within the Coastal Zone. In addition, the electrical distribution lines on the existing poles extending to the operations deck may need to be restrung as a part of the proposed project. Your Commission received a briefing on the Tajiguas Resource Recovery Project on September 3, 2014. Your Commission considered the project at the 65402 review on December 10, 2014; however, at the hearing and at your request, the project review was withdrawn pending completion of the proposed Final Subsequent Environmental Impact Report which is now available.

5.0 PROJECT ANALYSIS

5.1 Environmental Review

The project underwent environmental review with the preparation of a Subsequent Environmental Impact Report (12EIR-00000-00002). All impacts were found to be able to be reduced to less than significance with implementation of feasible mitigation measures, with the

exception of air quality and biological resource impacts associated with extending the operating life of the existing, permitted landfill. Areas of the landfill that have reached final capacity and elevations are in the process of being closed; however, approval of the proposed project would extend landfill activities (at a reduced level) and delay complete closure by approximately 10 years (~2026 to ~2036) and extend the duration of the existing Class I air quality and biological resource impacts. The EIR found that the proposed project (all components at the Tajiguas Landfill), with implementation of the mitigation measures identified in this Subsequent EIR, would have lesser impacts overall as compared to the alternatives that were analyzed. The alternatives considered included the No Project Alternatives (i.e., landfill expansion, waste export to the Simi Valley Landfill or to the proposed Santa Maria Integrated Waste Management Facility), alternative urban locations for the Materials Recovery Facility (MarBorg Industries site in the City of Santa Barbara or the South Coast Recycling and Transfer Station in Eastern Goleta Valley), or aerobic composting (at the Engel and Gray Facility in Santa Maria) instead of anaerobic digestion. The Board of Supervisors will consider the Proposed Final Subsequent Environmental Impact Report as a part of its consideration of the approval of the project. Your Commission is not required to take any action related to CEQA as a part of the 65402 determination and would not take any permit action if the project facilities are located in the inland portion of the landfill property. However, your Commission requested that the RRWMD make available the proposed Final Subsequent Environmental Impact Report as a part of your 65402 conformity analysis. 12EIR-00000-00002 is being distributed to each Planning Commissioner by the RRWMD under separate cover and may also be found at http://resourcerecoveryproject.com/pages/downloads.php/environmental-documents.php.

5.2 Comprehensive Plan Conformity

REQUIREMENT	DISCUSSION
Land Use Element, Land Use Development Policy 4: *Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development.* ***Coastal Land Use Plan (CLUP) Policy 2-6:*** *Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for*	**In Conformity**. Services (on-site well water, on-site wastewater disposal, public roads, etc.) currently exist at the landfill site or will be developed as part of the project to serve permitted operations and would continue to serve the landfill as well as the proposed Resource Recovery Project. A hydrogeologic study, *Hydrogeologic and Water Supply Impact Analysis Report*, dated October 4, 2013, was prepared by GeoSyntec. This study determined that the groundwater resources present at the site are anticipated to be adequate to serve the project. Roads are presently developed on site and would continue to serve the landfill and the Resource Recovery Project facilities. The proposed project includes the installation and operation of two advanced self contained commercial

REQUIREMENT	DISCUSSION
costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan. Where an affordable housing project is proposed pursuant to the Affordable Housing Overlay regulations, special needs housing or other affordable housing projects which include at least 50% of the total number of units for affordable housing or 30% of the total number of units affordable at the very low income level are to be served by entities that require can-and-will-serve letters, such projects shall be presumed to be consistent with the water and sewer service requirements of this policy if the project has, or is conditioned to obtain all necessary can-and-will-serve letters at the time of final map recordation, or if no map, prior to issuance of land use permits. (amended by 93-GP-11) 5	wastewater treatment units. Permits will be necessary for the operation of the wells and of the commercial wastewater treatment units from County Environmental Health Services. Electrical service is currently available to the site and in addition, the Materials Recovery Facility will be equipped with solar panels and the project will generate approximately one megawatt of electricity. All services would be available to serve the three operations trailers if they were to be located in the Coastal Zone on an existing deck south of the green waste processing area during construction.
Land Use Element, Hillside and Watershed Protection Policy 1: *Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.* ***CLUP Policy 3-13:*** *Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain*	**In Conformity.** The Materials Recovery Facility / Anaerobic Digestion Facility site would be located at the existing landfill operations deck/ west borrow area and the composting area would be located on the closed landfill waste footprint. However, construction of the Materials Recovery Facility / Anaerobic Digestion Facility would require approximately 142,605 cut and 102,765 fill (adjusted for 15% compaction) yards of fill to increase the pad height of the operations deck by up to 20 feet for a maximum finished pad elevation of 394 feet above msl. The grading would all be located in areas previously disturbed by landfill operations, including the operations deck which is an engineered fill pad and the west borrow area which is an area that has been previously disturbed and graded to provide landfill cover and closure soil. This amount of grading is needed to create building pads large enough to accommodate the Materials Recovery Facility / Anaerobic Digestion Facility that do not overlie the waste footprint and could not be developed with less

REQUIREMENT	DISCUSSION
	earth movement. The tip floor/waste delivery area would be raised by 16 feet relative to the waste processing and storage floor to shorten the conveyor belts that feed the waste and recyclable sorting system. The tip floor elevation was selected to minimize retaining wall heights relative to the adjacent hillside as well as to minimize export of excess fill from the Materials Recovery Facility / Anaerobic Digestion Facility site to the landfill for use as daily cover. The project is located on an existing developed site, and is designed to best integrate with the existing operations. As such, land disturbance (cut and fill) has been minimized to the extent practicable in the context of landfill disposal activities which cumulatively involve over three million cubic yards of earthmoving over the life of the project. If the three operations trailers were temporarily relocated during construction to a deck south of the green waste facility in the coastal zone, the project would be consistent with this policy as the existing deck has already been graded. Additional grading to install the trailers would be *de minimis*.
Land Use Element, Hillside and Watershed Protection - Policy 2: *All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.* ***CLUP Policy 3-14:*** *All development shall be designed to fit the site topography, soils, geology, hydrology, and any other existing*	**In Conformity.** Suitable locations for development of the Resource Recovery Project components at the Tajiguas Landfill site are limited due to the presence of the waste footprint, steep slopes, limited flat deck area, and space needs for landfill equipment storage and operations. The proposed locations for the Materials Recovery Facility / Anaerobic Digestion Facility Site and composting area include existing developed/disturbed areas of the landfill property (operations deck, west borrow area and top deck) with suitable area and slope to support the facilities. Additional grading is needed to create building pads large enough to accommodate the Materials Recovery Facility / Anaerobic Digestion Facility that do not overlie the waste footprint

REQUIREMENT	DISCUSSION
conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited for development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.	and to maximize Materials Recovery Facility operational efficiency. However, additional grading would only occur on the previously disturbed and developed operations deck and existing disturbed portions of the permitted landfill west borrow area. By constructing in these existing disturbed areas, grading and other site preparations are kept to an absolute minimum. Because the majority of the facilities would be located in the existing disturbed areas of the landfill, vegetation removal would be minimized. Construction outside of the existing disturbed areas would be required for the tanks, which need to be at an elevation to ensure gravity flow, and for the utility line to proposed well 6. While approximately 1.09 total acres of *Ceanothus megacarpus* chaparral and rock outcrop would be removed by the project in these areas, no sensitive habitats would be directly impacted. Construction activities could potentially adversely affect sensitive vegetation located adjacent to the direct impact area due to introduction of invasive species, erosion, or if work inadvertently occurs outside of the designated work area. However, MM TRRP BIO-1 from 12EIR-00000-00002 would include a requirement for delineating the construction work area, controlling invasive plants, and implementation of erosion control measures in order to avoid impacts to adjacent vegetation and wildlife habitat. Therefore, natural features, landforms, and native vegetation, such as trees have been preserved to the maximum extent feasible. Geotechnical and hydrologic studies (Soils Engineering Report and Engineering Geology Investigation, GeoSolutions Inc., October 4, 2013 and Hydrology and Hydraulic Analysis Report, HDR, September 2013) have been prepared to evaluate the project facilities. Based on these studies, the proposed locations are suitable for the proposed project elements.

REQUIREMENT	DISCUSSION
	If the three operations trailers were temporarily relocated during construction to a deck south of the green waste facility in the coastal zone, the project would be consistent with this policy as the existing deck has already been graded and cleared for use as part of the landfill.
Land Use Element, Hillside and Watershed Protection - Policy 3: *For necessary grading on hillsides, the smallest practical area of land shall be exposed at any one time during development, and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.* ***CLUP Policy 3-15:*** *For necessary grading operations on hillsides, the smallest practical area of land shall be exposed at any one time during development, and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.*	**In Conformity**. Grading and site preparation, as a whole, would be limited to four months. The grading that is proposed on hillsides would occur in the west borrow area to support the installation of the Materials Recovery Facility and Anaerobic Digestion Facility. The west borrow area is currently disturbed as it has been used as a borrow site for landfill operations. The grading on hillslopes would be limited to this predisturbed area and the grading period would be limited (four months). Therefore, the smallest practical area is being developed considering the scope of the project. The timing of grading for the project is not currently known. However, the project would exceed one acre of disturbance and would require coverage under the NPDES Construction General Storm Water Permit. Compliance with the Construction General Storm Water Permit requires preparation of a SWPPP that would include measures to reduce off-site water quality impacts during construction. Additionally, implementation of MM TRRP WR-2 from 12EIR-00000-00002, which includes numerous measures that would prevent erosion and protect soil stability (e.g. Erosion and Sediment Control Plan), would result in protection of slopes and the watershed from construction activities, even if construction were to occur during the rainy season. Earthwork associated with project construction and landfill operations may result in unstable slopes that may generate landslides. However, proposed MM TRRP G-1 from 12EIR-00000-00002 which prohibits ponding on the slopes,

REQUIREMENT	DISCUSSION
	diverts storm flows away from the slope faces, prevents concentrated over-slope drainage, and ensures on site observation of the slopes during construction by an engineer or an engineering geologist, would insure stability of cut slopes. If the three operations trailers were temporarily relocated during construction to a deck south of the green waste facility in the coastal zone, the project would be consistent with this policy as the existing deck has already been graded and soils are stabilized.
Land Use Element, Hillside and Watershed Protection - Policy 4: *Sediment basins (including debris basins, desilting basins, or silt traps) shall be installed on the project site in conjunction with the initial grading operations and maintained through the development process to remove sediment from runoff waters. All sediment shall be retained on-site unless removed to an appropriate dumping location.*	**In Conformity**. Two sedimentation basins (north and south basins) currently capture sediment from the landfill via a network of storm drains. These basins would continue to provide sediment control from the developed landfill area including areas that will be developed with Resource Recovery Project facilities. In addition, construction storm water protection is addressed by mitigation measure MM TRRP WR-2 from 12EIR-00000-00002 which includes numerous water quality protection measures including the use of straw wattles or equivalent measures to trap suspended sediment around work areas containing disturbed soils. Best management practices contained in the SWPPP and ECSP are required to be in place prior to and throughout construction.
Land Use Element, Hillside and Watershed Protection - Policy 5: *Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized as rapidly as possible with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.* ***CLUP Policy 3-17:*** *Temporary vegetation, seeding, mulching, or other suitable*	**In Conformity**. The project would require coverage under the NPDES Construction General Storm Water Permit which requires that a Storm Water Pollution Prevention Plan be prepared and implemented. Additionally, mitigation measure MM TRRP WR-2 from 12EIR-00000-00002 includes a requirement for an Erosion Control Plan that will be implemented until re-graded areas have been stabilized by structures, long-term erosion control measures or permanent vegetation established.

REQUIREMENT	DISCUSSION
stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized immediately with planting of native grasses and shrubs, appropriate nonnative plants, or with accepted landscaping practices.	No grading would be necessary to relocate the three operations trailers to an existing deck located in the coastal zone south of the green waste processing area. Therefore, temporary vegetation etc would be unnecessary as the area is stabilized.
Land Use Element, Hillside and Watershed Protection - Policy 6: *Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions as a result of development. Water runoff shall be retained onsite whenever possible to facilitate groundwater recharge.* ***CLUP Policy 3-18:*** *Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions as a result of development. Water runoff shall be retained on-site whenever possible to facilitate groundwater recharge.*	**In Conformity**. Drainage from the Resource Recovery Project site would be conveyed to new or existing storm drain inlets which drain into the existing Cañada de la Pila 48-inch storm drain. These storm drains are located beneath the operations deck (west of the landfill waste footprint) and discharge into the natural channel of Pila Creek at the southern end of the landfill property. To meet storm water quality requirements, all surface water run-off from the site would be treated by filtration devices prior to discharge from the site to any off-site drainage conveyance. The composting area would be graded at a minimum slope of three percent toward collection points around the perimeter of the area. A berm would also be constructed around the perimeter of the composting area to prevent run-off from leaving the area and to prevent storm water run-on. In accordance with the State Water Resources Control Board Draft Compost Regulations, onsite storage facilities would be designed to contain worst case 25-year, 24-hour storm event flows. Storm water runoff from the pad would be collected via asphalt swales and directed through a sediment removal device into portable tanks (Baker, or equivalent). The collected water would be reused on the compost piles to maintain proper moisture content. Rainfall events exceeding the 25 year storm would be diverted through an overflow system to the upper reach of Pila Creek. Because of the presence of the landfill, storm water is not permitted to be retained for recharge.

REQUIREMENT	DISCUSSION
	In the event that the three operations trailers are temporary relocated onto an existing deck in the coastal zone, drainage would be accommodated through minimal grading with the goal of retaining runoff on site.
Land Use Element, Hillside and Watershed Protection - Policy 7: *Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.* ***CLUP Policy 3-19:*** *Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.*	**In Conformity**. The project would require coverage under the NPDES Construction General Stormwater Permit which requires that a Stormwater Pollution Prevention Plan be prepared and implemented. Additionally, construction stormwater protection is addressed by mitigation measure MM TRRP WR-2 from 12EIR-00000-00002 which includes numerous water quality protection measures. Operation of the Resource Recovery Project has the potential to adversely affect water quality through discharge of contaminated stormwater, inadvertent discharge of percolate, wastewater disposal, and leaks or spills from fueling activities Numerous measures are incorporated into the project to avoid or minimize contamination of storm and/or surface water. However, additional industrial storm water permit compliance and spill prevention is addressed by mitigation measure MM TRRP WR-3 which includes measures to minimize surface water contamination associated with waste handling, processing and related activities. Additionally, discharge of run-off from the composting area may adversely impact surface water quality. However, mitigation measure MM TRRP WR-4 from 12EIR-00000-00002 requires water quality monitoring and a corrective action plan for run-off from the composting area. The three operations trailers which may be temporarily relocated into the coastal zone during construction would not contain any pollutants, raw sewage or other harmful waste.
Land Use Element, Flood Hazard Area - Policy 1: *All development, including*	**In Conformity**. Due to the lack of adjacent development, neither Cañada de la Pila nor

REQUIREMENT	DISCUSSION
construction, excavation, and grading, except flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with HUD regulations are provided. If the proposed development falls within the floodway fringe, development may be permitted, provided creek setback requirements are met and finished floor elevations are two feet above the projected 100-year flood elevation, and the other requirements regarding materials and utilities as specified in the Flood Plain Management Ordinance are in compliance. ***Land Use Element, Flood Hazard Area - Policy 2:*** *Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.*	Arroyo Quemado are regulated floodplains and no floodways have been identified by the Federal Emergency Management Agency (FEMA). Drainage from the Resource Recovery Project site would be conveyed to new or existing storm drain inlets which drain into the existing Cañada de la Pila 48-inch storm drain south of the landfill. Peak flows from the project would not impact facilities downstream of the landfill. The existing storm drain system was evaluated and would adequately convey peak storm runoff from 100-year events under the existing plus project conditions. Therefore, no flood hazards would be created, and no new flood control works would be required.
Land Use Element, Historical and Archeological Sites - Policy 1: *All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archeological, and other classes of cultural sites.* ***Land Use Element, Historical and Archeological Sites - Policy 2:*** *When developments are proposed for parcels where archeological sites or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.* ***Land Use Element, Historical and Archeological Sites - Policy 3:*** *When sufficient planning flexibility does not permit avoiding construction on archeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of*	**In Conformity**. There are no known historic properties within 0.5 mile radius of the project site and there is no evidence of archaeological resources within the area of proposed ground disturbance. However, excavation at the tank sites has the potential to encounter unknown buried cultural resources. Therefore, mitigation measure MM TRRP CR-1 from 12EIR-00000-00002, which requires stop work and evaluation of materials in the unlikely event of the discovery of resources during construction, is required. With implementation of this measure, the project is in conformity with policies relating to cultural resources. The three operations trailers that may be relocated to an existing deck in the coastal zone would have no possibility of affecting cultural resources as the area has been previously and extensively graded.

REQUIREMENT	DISCUSSION
Historic Preservation and the State of California Native American Heritage Commission. ***Land Use Element, Historical and Archeological Sites - Policy 4:*** *Off-road vehicle use, unauthorized collection of artifacts, and other activities other than development which could destroy or damage archeological or cultural sites shall be prohibited.* ***CLUP Policy 10-1****: All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.* ***CLUP Policy 10-2****: When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.* ***CLUP Policy 10-3****: When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.* ***CLUP Policy 10-4:*** *Off-road vehicle use, unauthorized collecting of artifacts, and other activities other than development which could destroy or damage archaeological or cultural sites shall be prohibited.*	
Land Use Element, Historical and Archeological Sites - Policy 5: *Native Americans shall be consulted when development proposals are submitted which*	**In Conformity**. As indicated above, no archaeological sites are known to exist within the project area of potential disturbance. However, as part of the preparation of 12EIR-

REQUIREMENT	DISCUSSION
impact significant archeological or cultural sites.	00000-00002, a Native American Heritage Commission (NAHC) sacred lands files search was conducted and the NAHC-recommended list of Chumash contacts were consulted regarding their concerns regarding the project. Sacred lands were not identified in the project area.
Land Use Element, Visual Resource - Policy 2: *In areas designated as rural on the land use plan maps, the height, scale and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms, shall be designed to follow the natural contours of the landscape, and shall be sited so as not to intrude into the skyline as seen from public viewing places.* ***CLUP Policy 4-3:*** *In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow the natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.*	**In Conformity**. The project is located within the existing Tajiguas Landfill property. Permitted operation of the landfill, which has been in existence since 1967, has substantially modified the natural landforms and contours in the area of the proposed project. Additionally, technical requirements, such as the need for large equipment to operate within the buildings, determine the height, size and form of the project facilities. The project is mostly hidden from public view by intervening topography. The Materials Recovery Facility / Anaerobic Digestion Facility would be briefly visible from U.S. Highway 101 (a scenic highway) but the buildings would not intrude into the skyline (see Attachment B., Visual Simulations). With implementation of mitigation measures MM TRRP VIS-1a and 1b the structures and other vertical hardscape (e.g., retaining walls, containment walls and tanks) would be screened and painted to visually blend in with the surrounding landscape and would be subordinate in appearance to the existing landfill and the surrounding natural landforms as viewed from U.S. Highway 101. Project facilities would be almost unperceivable from the Baron Ranch trail. The proposed composting area run-off collection tank, landfill maintenance building and composting area would be located within the disturbed landfill area. These facilities would be visible from the Upper Outlaw Trail at Arroyo Hondo Preserve; however, the facilities would not intrude into the skyline and existing views from this trail include the active landfill. As such, the height, scale and design

REQUIREMENT	DISCUSSION
	of structures would be compatible with the character of the surrounding manmade and natural environments. The three operations trailers that may be temporarily relocated to an existing deck in the coastal zone, would be visually unobtrusive given their size, height, and small footprint. Additionally the deck is not visible from public vantage points along Highway 101.
Land Use Element, Public Facilities –Policy. *1.a. The development of public facilities necessary to provide public services is appropriate within the defined Rural and Inter-rural Areas.* *1.b. When a public agency proposes that a facility be located in a Rural or Inner-Rural Area, especially when it may create any parcel(s) smaller than the minimum parcel size for the Area and the applicable land use designation(s), conformity with the Comprehensive Plan shall be determined in consideration of the following factors:* *i. Whether the public interest and necessity require the project, balancing potential inconsistencies with other elements and policies of the Comprehensive Plan; and* *ii. Whether the project is planned and located in the manner that will be most compatible with the greatest public good and the least private injury; and* *iii. Whether the property sought to be acquired is necessary for the project.*	**In Conformity**. *1.a* The Tajiguas Resource Recovery Project is a logical adjunct to the Tajiguas Landfill and would provide for the extension of landfill life by approximately 10 years. As such, the project provides a necessary public service to the community which relies on the Tajiguas landfill for solid waste disposal. The project would be located at an existing solid waste management facility that has been in continuous operation since 1967 and the site has a solid waste facility overlay designation in the Comprehensive Plan. *1.b.* The proposed project would be located on the existing landfill in a rural area and would not create any new parcels nor affect the parcel size of the underlying lots. *i.* The project is necessary to meet state waste management legislation and requirements and to support greenhouse gas reduction legislation, and, as explained herein, is consistent with all applicable policies. *ii.* The project is located at the existing Tajiguas landfill, an historic and existing public facility which has been in operation since 1967. The landfill has a waste management overlay in the Comprehensive Plan recognizing its historic and current waste management use. Properties surrounding the landfill are zoned and used primarily for agriculture or open space, or were formerly oil and gas producing facilities. The proposed facilities are located in the central portion of the landfill, largely remote from any public

REQUIREMENT	DISCUSSION
	area. Residential development surrounding the landfill is limited to one proposed residence located south of the property and the Arroyo Quemada community located south of US highway 101 and the UPRR, south and east of the landfill. Environmental impacts have been minimized through project design, and through mitigation measures identified as part of the CEQA review. Therefore as proposed, the project is planned and located in a manner that will be most compatible with the greatest public good and the least private injury. iii. Finally, the proposed property is already under County ownership and is used as a landfill. Therefore, no additional property needs to be acquired for the project. However, a site lease agreement would be issued for operation of the TRRP facilities.
Seismic Safety & Safety Element, Geologic and Seismic Protection Policy 1: *The County shall minimize the potential effects of geologic, soil, and seismic hazards through the development review process.*	**In Conformity**. The project would result in the following geologic, soils and seismic impacts: • Unstable slopes that may generate landslides; • Potential impacts to the Materials Reco very Facility/ Anaerobic Digestion Facility from use of expansive soil; and • Settlement associated with existing and planned municipal solid waste disposal affecting the proposed composting area operations. Implementation of mitigation measures MM TRRP G-1; MM TRRP G-2; MM TRRP G-3 and MM TRRP G-4 from 12EIR-020000-00002 would minimize the potential for geologic, soils and seismic impacts associated with the proposed project.
Seismic Safety & Safety Element, Fire Policy 9: *The County shall minimize the potential effects of fire hazards through the development review process pursuant to State law.*	**In Conformity**. The project could result in the accidental release of bio-gas, which could increase the risk of fire or explosion. The project could also result in the risk of the collection of landfill gas in flammable

REQUIREMENT	DISCUSSION
	concentrations within enclosed structures. Additionally the project would introduce additional site development, introducing new fuel sources, new sources of ignition, and additional personnel into a high fire hazard area. Mitigation measure MM TRRP HAZ-2 from 12EIR-00000-00002 has been incorporated into the proposed project to address these hazards. The potential of the project to interfere with emergency response plans was also evaluated and determined not to be significant.
Seismic Safety & Safety Element, Flood Policy 1: *The County shall avoid or minimize risks of flooding to development through the development review process pursuant to Government Code §65302(3)(g)(2)(i).*	**In Conformity**. The project would introduce new impervious surfaces and modify drainage patterns within the project area. However, existing storm drain infrastructure is adequate to accommodate project flows (as analyzed in 12EIR-00000-00002 Section 4.10, Water Resources).
Noise Element, Recommended Policy 1*: In planning of land use, 65 dB Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.*	**In Conformity**. Pursuant to a Community Noise Technical Study (included as Appendix J to 12EIR-00000-00002) the Tajiguas Resource Recovery Project would not result in noise levels above the 65 dBA CNEL threshold at noise-sensitive land uses.
Agricultural Element Policy I.A: *The integrity of agricultural operations shall not be violated by recreational or other non-compatible uses.* ***Agricultural Element Policy II.D:*** *Conversion of highly productive agricultural lands, whether urban or rural, shall be discouraged. The County shall support programs which encourage the retention of highly productive agricultural lands.* ***CLUP Policy 8-2****: If a parcel is designated for agricultural use and is located in a rural area not contiguous with the urban/rural boundary, conversion to non-agricultural use shall not be permitted unless such conversion of the entire parcel would allow for another priority use*	**In Conformity**. The proposed project would not affect agricultural operations, as the Tajiguas Landfill site has been used for the disposal of municipal solid waste since 1967 and areas affected by the project are either already disturbed or in open space. The landfill site has an agricultural land use designation and is agriculturally zoned but acknowledgement of the site's use as a landfill is specified through the Waste Disposal Overlay designation. Continued implementation of the mitigation measures identified in the Tajiguas Landfill Environmental documents for the operation of the landfill with regard to land use, air quality and nuisances would continue to minimize conflicts with the ongoing agricultural

REQUIREMENT	DISCUSSION
under the Coastal Act, e.g., coastal dependent industry, recreation and access, or protection of an environmentally sensitive habitat. Such conversion shall not be in conflict with contiguous agricultural operations in the area, and shall be consistent with Section 30241 and 30242 of the Coastal Act.	operations in the area. Therefore, the project is in Conformity with policies I.A and II.D. Use of the project site as a landfill predated the coastal plan. As such, regardless that the parcel is zoned agriculture, the deck upon which the three operations trailers may be placed has already been converted to a landfill and no agricultural resources would be affectecd.
Energy and Climate Action Plan ***Renewable Engergy Goal:*** *To promote the use of alternative energy for economic and environmental benefits, and facilitate opportunities for businesses that develop or market alternative energy technologies.* ***Action Item 5)*** *Encourage the use of anaerobic digesters inagriculture, wastewater treatment, and solidwaste management.* ***Waste Reduction*** ***Goal: To exceed the state's required diversion rate of 75% by 2020.*** ***Waste Reduction (WR 1)*** ***Measure*** *– Continue to support the programs associated with efficient waste collection and recycling, public school education, and composting.* ***Action Item 3)*** *Continue to look for opportunities to remove food waste from landfills, such as curbside composting for restaurants.* ***Increased Recycling Opportunities (WR 2)*** ***Measure*** *– Seek additional opportunities for county residents to recycle cardboard, glass, paper, and plastic products.* ***Action Item 2)*** *Implement the Resource Recovery Project's centralized processing facility for waste, or other mechanism for increasing the diversion rate.* ***Landfill Disposal Reductions (WR 4)*** ***Measure*** *– Reduce or minimize GHG*	**In Conformity.** The proposed project includes processing of organic waste separated from the waste stream in an Anaerobic Digestion Facility. Bio-gas produced from the facility would generate approximately 1 net megawatt of renewable energy. The Resource Recovery Project would include diverting over 98% of organics and over 90% of recyclables still being buried at the landfill. Currently, the diversion rate for the county (North and South County) is approximately 73%. This project would increase the region's diversion rate to approximately 80% without any changes to current programs. Recycling activities associated with the project are expected to eliminate greenhouse gas levels equivalent to annual emissions from approximately 13,270 vehicles/year. Also, the reduction in landfilling of organic materials would result in a decrease in nearly one million metric tons of carbon dioxide equivalent (CO_2e)09 during the first 50 years following project implementation.

REQUIREMENT	DISCUSSION
emissions from waste materials deposited into landfills. ***Action Item 2)*** *Continue to develop programs and facilities, such as the Resource Recovery Project, that target the diversion and recycling of organic waste, which is the primary cause of methane gas production at landfills.*	

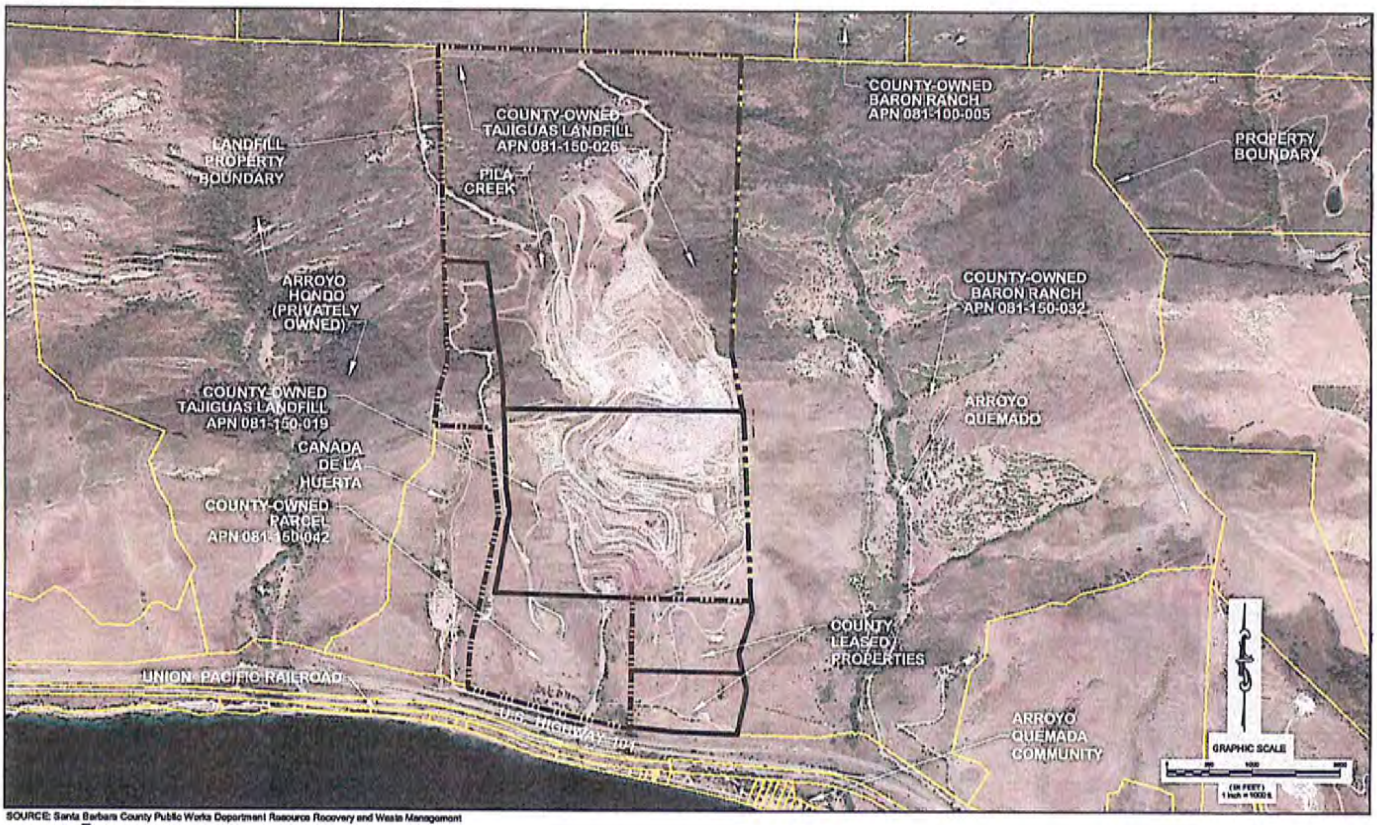
6.0 APPEALS PROCEDURE

The determination of the Planning Commission pursuant to Government Code § 65402 (a) is not appealable to the Board of Supervisors. Your Commission's determination will be forwarded to the County Board of Supervisors for informational purposes only.

ATTACHMENTS

A. Project Plans
B. Visual Simulations
C. Link to SEIR documents

March 2014
Project No. 1202-0792



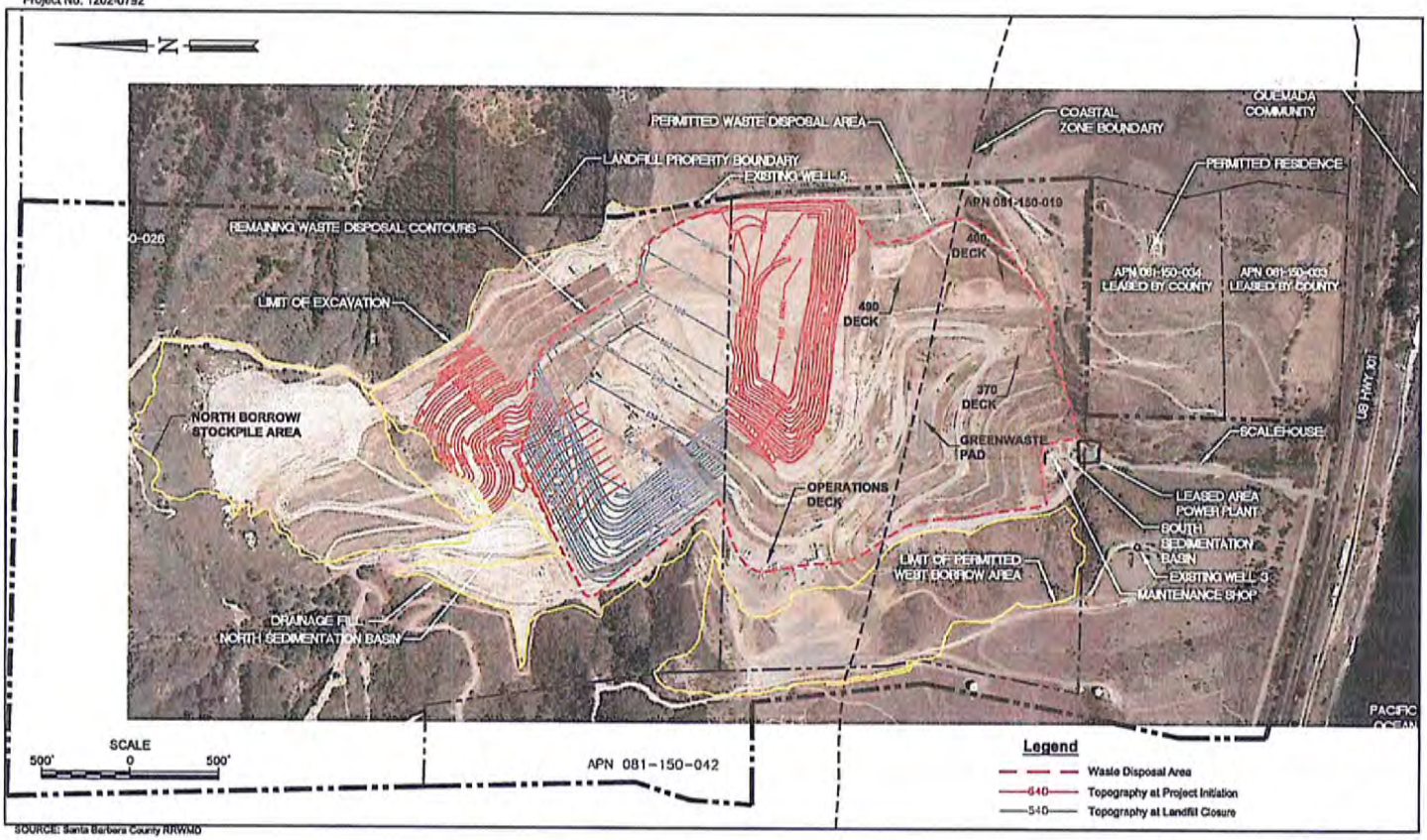
SOURCE: Santa Barbara County Public Works Department Resource Recovery and Waste Management

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Tajiguas Resource Recovery Project

VICINITY MAP
FIGURE 3-2

July 2014
Project No. 1202-0792

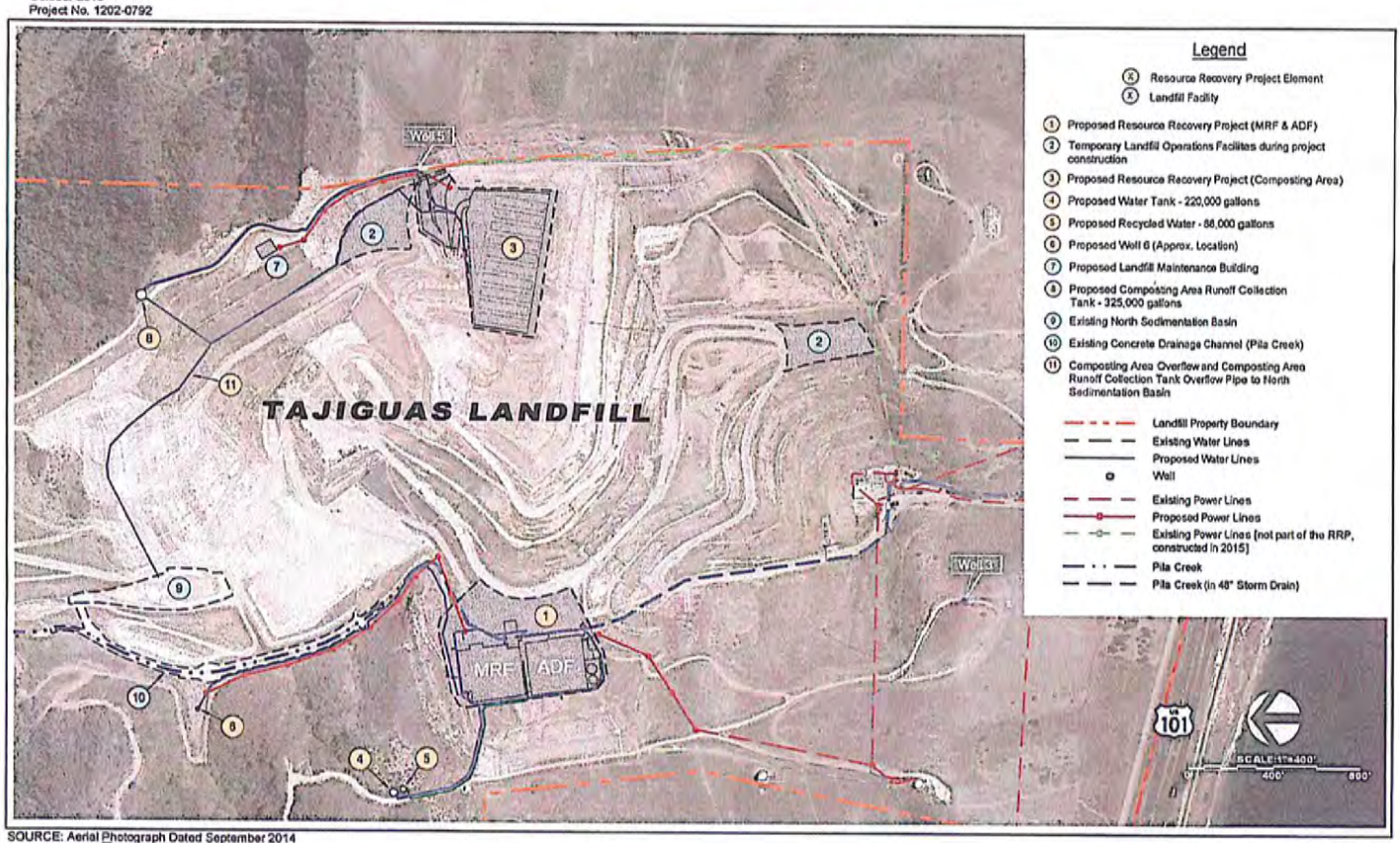


SOURCE: Santa Barbara County RRWMD

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS
Tajiguas Resource Recovery Project

TAJIGUAS LANDFILL SITE MAP
FIGURE 3-3

October 2015
Project No. 1202-0792

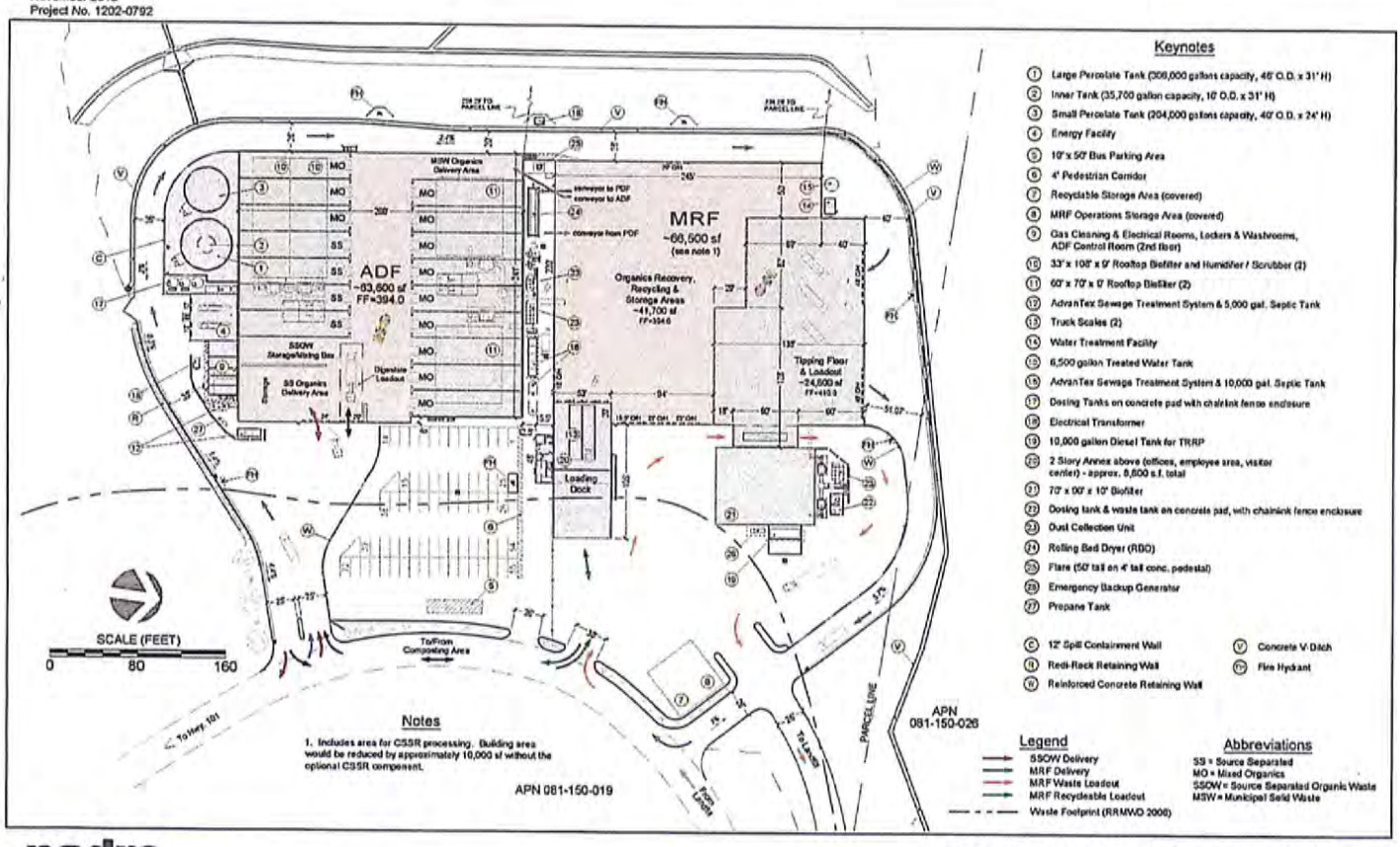


SOURCE: Aerial Photograph Dated September 2014

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS
Tajiguas Resource Recovery Project

PROJECT FACILITIES PLAN
UPDATED FIGURE 3-4

November 2015
Project No. 1202-0792



Keynotes

1. Large Percolate Tank (308,000 gallons capacity, 46' O.D. x 31' H)
2. Inner Tank (35,700 gallon capacity, 16' O.D. x 31' H)
3. Small Percolate Tank (204,000 gallons capacity, 40' O.D. x 24' H)
4. Energy Facility
5. 10' x 50' Bus Parking Area
6. 4' Pedestrian Corridor
7. Recyclable Storage Area (covered)
8. MRF Operations Storage Area (covered)
9. Gas Cleaning & Electrical Rooms, Lockers & Washrooms, ADF Control Room (2nd floor)
10. 33' x 108' x 9' Rooftop Biofilter and Humidifier / Scrubber (2)
11. 60' x 70' x 9' Rooftop Biofilter (2)
12. AdvanTex Sewage Treatment System & 5,000 gal. Septic Tank
13. Truck Scales (2)
14. Water Treatment Facility
15. 6,500 gallon Treated Water Tank
16. AdvanTex Sewage Treatment System & 10,000 gal. Septic Tank
17. Dosing Tanks on concrete pad with chainlink fence enclosure
18. Electrical Transformer
19. 10,000 gallon Diesel Tank for TRRP
20. 2 Story Annex above (offices, employee area, visitor center) - approx. 8,600 s.f. total
21. 70' x 90' x 10' Biofilter
22. Dosing tank & waste tank on concrete pad, with chainlink fence enclosure
23. Dust Collection Unit
24. Rolling Bed Dryer (RBD)
25. Flare (50' tall on 4' tall conc. pedestal)
26. Emergency Backup Generator
27. Propane Tank

- (C) 12" Spill Containment Wall
- (R) Redi-Rock Retaining Wall
- (W) Reinforced Concrete Retaining Wall
- (V) Concrete V-Ditch
- (H) Fire Hydrant

Notes

1. Includes area for CSSR processing. Building area would be reduced by approximately 10,000 sf without the optional CSSR component.

Legend

- SSOW Delivery
- MRF Delivery
- MRF Waste Loadout
- MRF Recycleable Loadout
- Waste Footprint (RRMWD 2008)

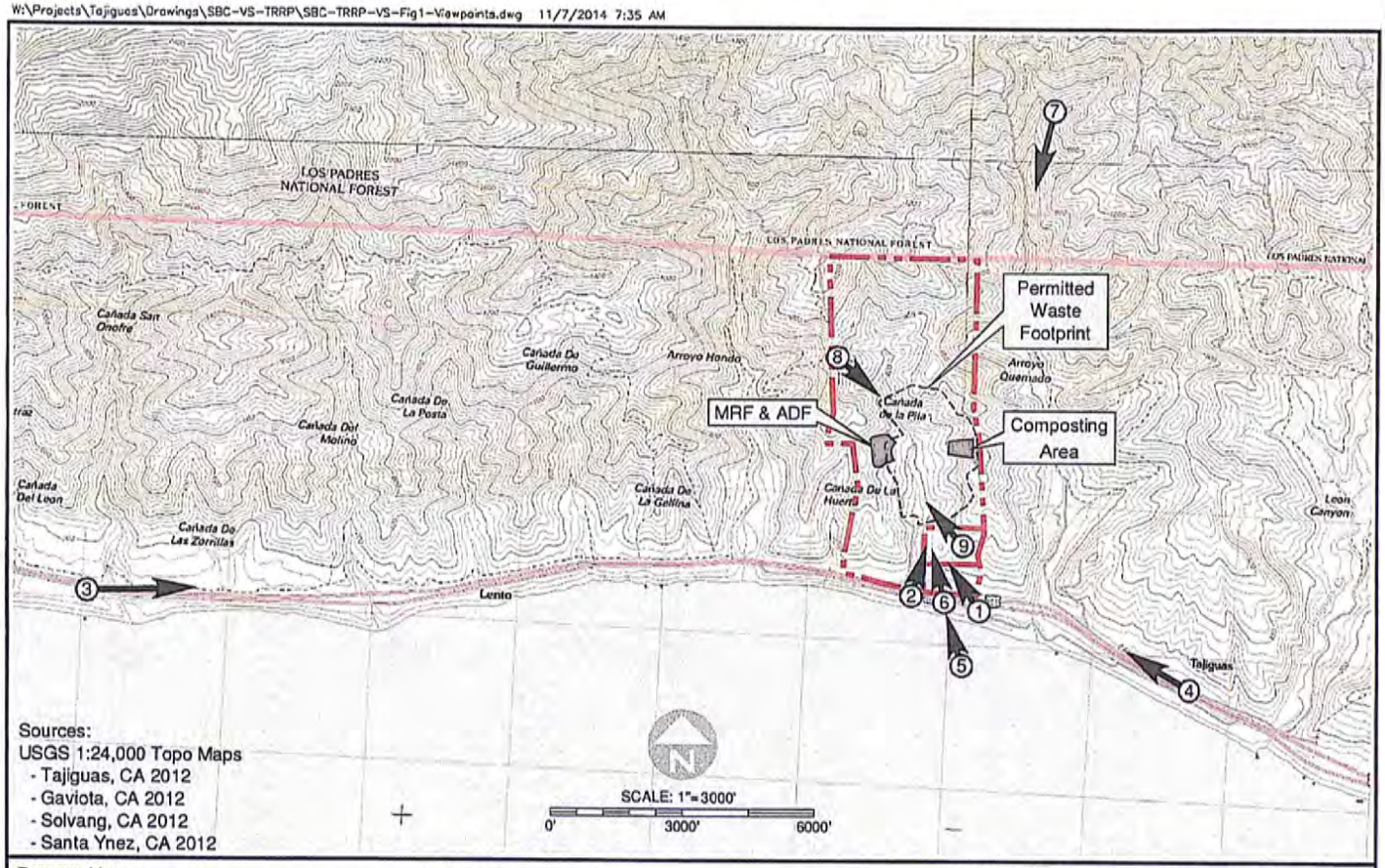
Abbreviations

SS = Source Separated
MO = Mixed Organics
SSOW = Source Separated Organic Waste
MSW = Municipal Solid Waste

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS
Tajiguas Resource Recovery Project

RESOURCE RECOVERY PROJECT SITE PLAN
UPDATED FIGURE 3-5

W:\Projects\Tajiguas\Drawings\SBC-VS-TRRP\SBC-TRRP-VS-Fig1-Viewpoints.dwg 11/7/2014 7:35 AM



Sources:
USGS 1:24,000 Topo Maps
- Tajiguas, CA 2012
- Gaviota, CA 2012
- Solvang, CA 2012
- Santa Ynez, CA 2012

Prepared by:

John Kular Consulting
10901 Rockridge Way, Bakersfield, CA 93311
661-663-7732 kularconsult.com

Legend

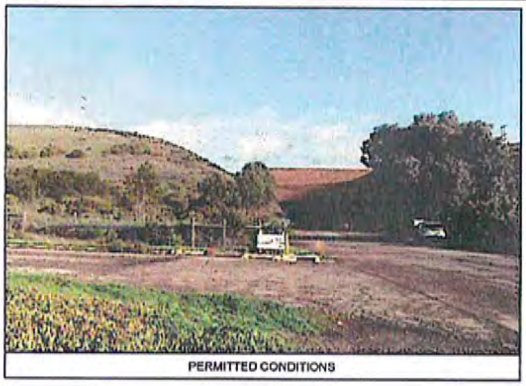
- Tajiguas Landfill Property
- ② Viewpoint Location
- Direction of View

Tajiguas Resource Recovery Project

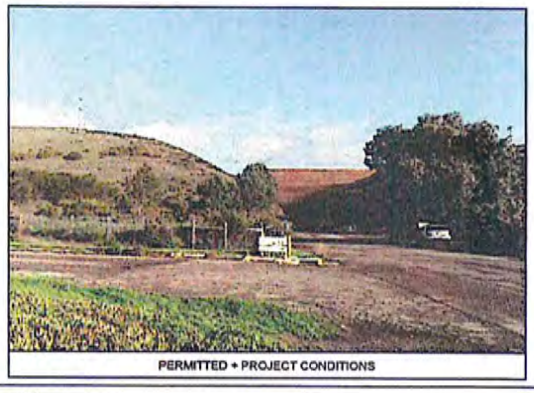
Viewpoint Locations

October 2013
Project No. 1202-0792

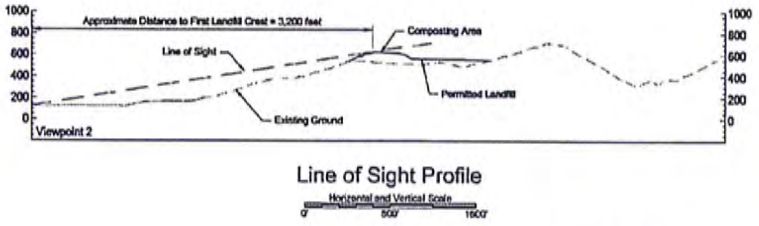
EXISTING CONDITIONS



PERMITTED CONDITIONS



PERMITTED + PROJECT CONDITIONS



Line of Sight Profile

Horizontal and Vertical Scale
0' 500' 1500'

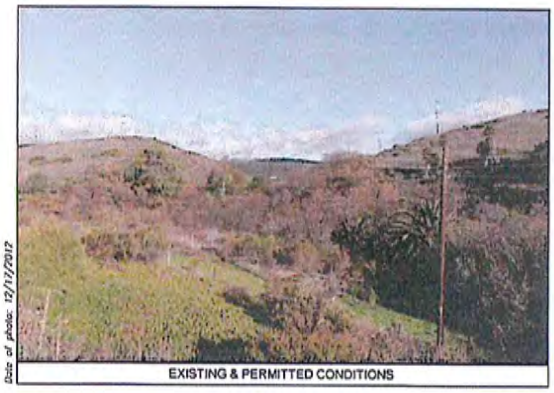
Date of photo: 12/17/2012

padre associates, inc.
GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

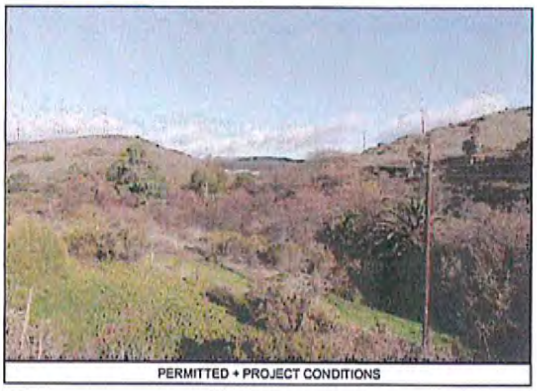
Tajiguas Resource Recovery Project

PHOTO-SIMULATION VIEW 2
FIGURE 4.1-3

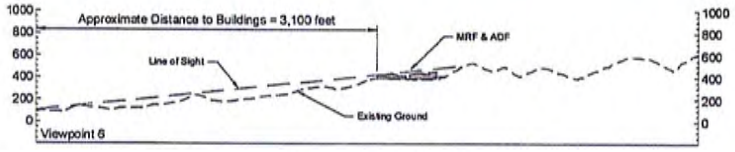
October 2015
Project No. 1202-0792



EXISTING & PERMITTED CONDITIONS



PERMITTED + PROJECT CONDITIONS



Line of Sight Profile

HORIZONTAL & VERTICAL SCALE

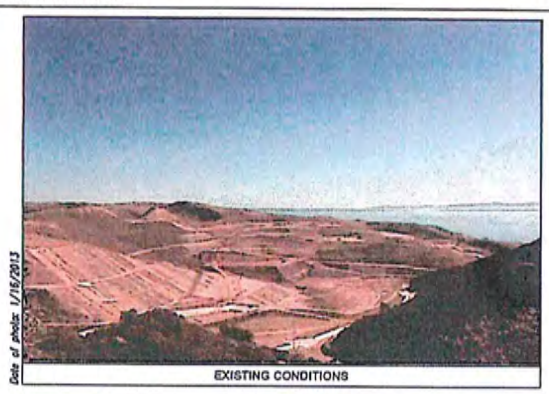
0' 800' 1600'

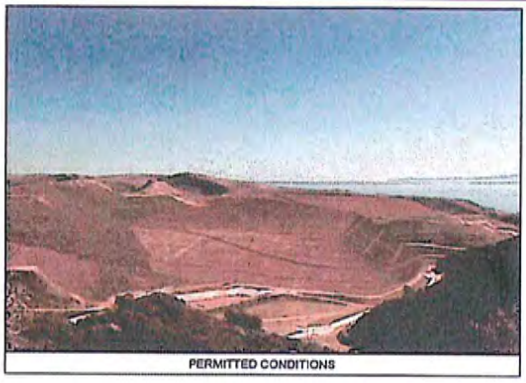
padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

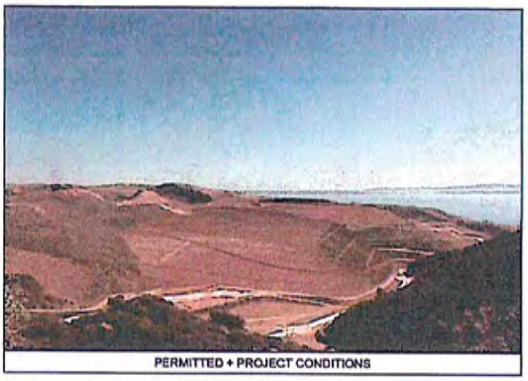
Tajiguas Resource Recovery Project

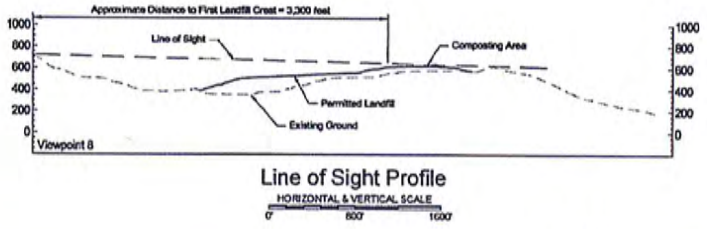
PHOTO-SIMULATION VIEW 6
UPDATED FIGURE 4.1-7

October 2013
Project No. 1202-0792





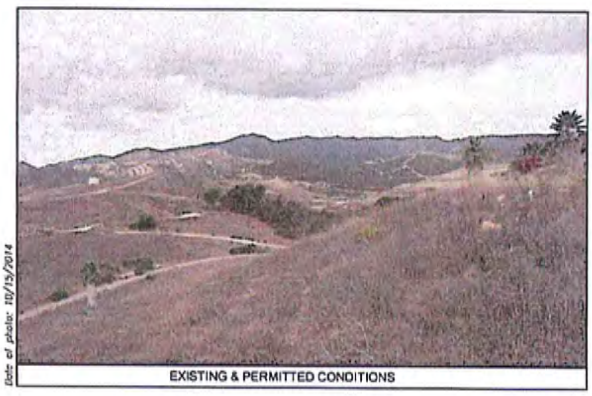


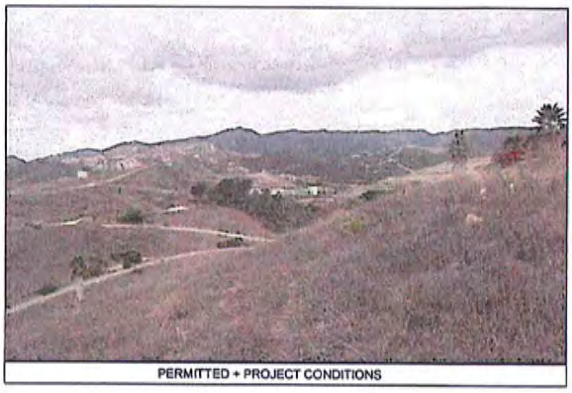


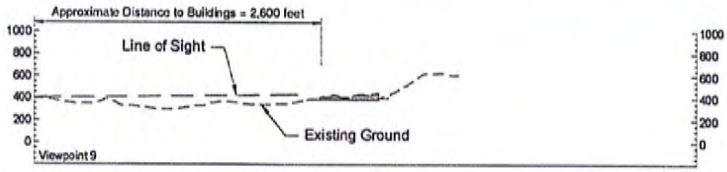
Line of Sight Profile
HORIZONTAL & VERTICAL SCALE
0' 800' 1600'

padre associates, inc.
Tajiguas Resource Recovery Project

PHOTO-SIMULATION VIEW 8
FIGURE 4.1-9







Line of Sight Profile

HORIZONTAL & VERTICAL SCALE

0 500' 1000'

PHOTO-SIMULATION VIEW 9
FIGURE 9-1

ATTACHMENT C

The SEIR for the Tajiguas Resource Recovery Project may be found at the following link:

http://resourcerecoveryproject.com/pages/downloads/environmental-documents.php.